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The OIL WEEKLY

April 23, 1926 Volume 41. No. 5

Because the "Cone Principle" is scientifically correct

You can depend on the HUGHES ROCK BIT for all rock drilling

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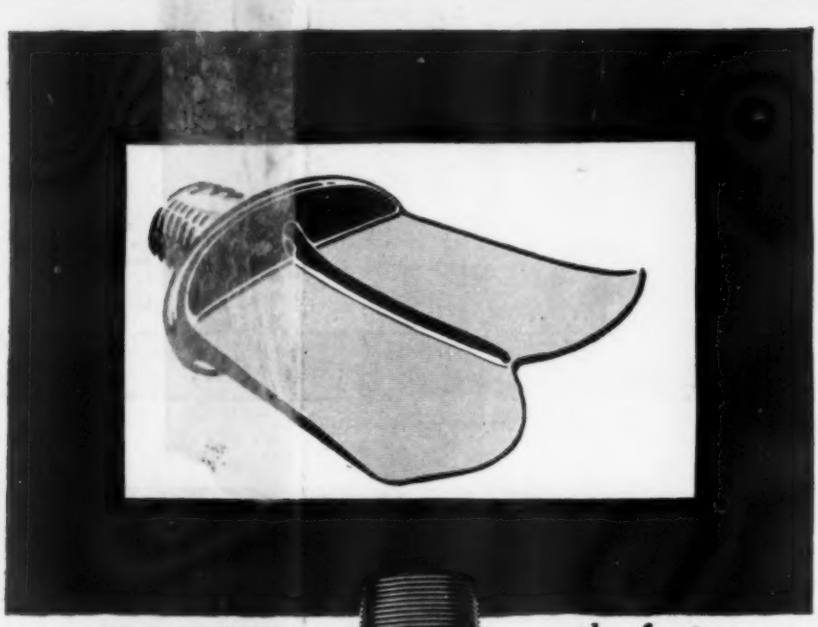


A CUT or a Cutting TOOL

Rock-cutting tools are often "cut by" instead of cutting hard formations.

Much of the time lost in drilling today is consumed in pulling tools, worn out before they have made any appreciable footage. No tool will last indefinitely, but there is a difference in the footage made during the time the wear is going on.

The way the Reed Rock Bit does its work—the exacting specifications of the alloy steels from which it is made — careful manufacture and heat treating provide a rock-cutting tool that will make hole faster in hard formations of every kind.

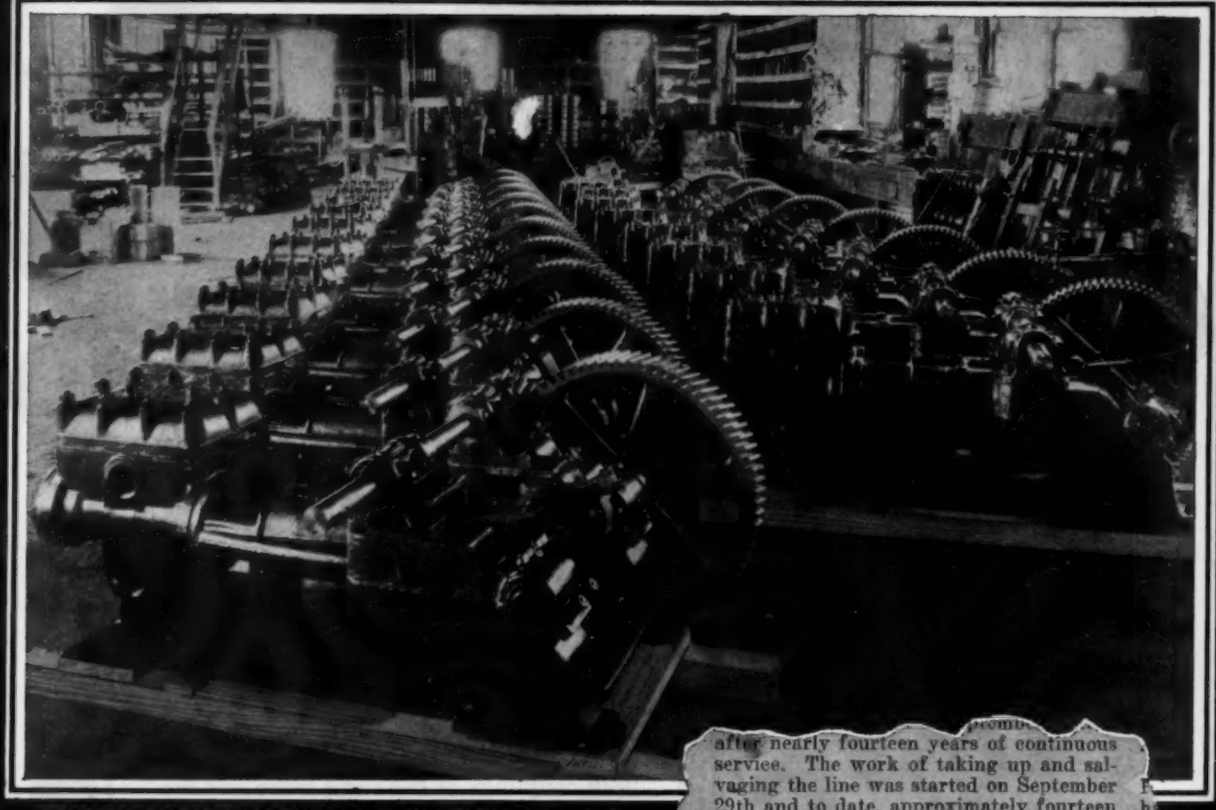
Keep a Reed Rock Bit on the derrick floor for cutting that hard rock.

Reed Rock Bits

Reed Roller Bit Company

HOUSTON LOS ANGELES

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879



PART OF A BIG ORDER OF GASO NO. 508 PUMPS READY FOR SHIPMENT TO MIDWEST REFINING COMPANY, SALT CREEK, WYOMING

MIDWEST GASO

"OUR BIGGEST WORK AT SALT CREEK DURING THE YEAR HAS BEEN THE ADOPTION OF— ELECTRIC POWER PUMPS"

READ THE CLIPPING FROM MIDWEST REVIEW'S ARTICLE BY G. M. VANDAVEER, GENERAL SUPERINTENDENT OF PIPE LINES. 109 NEW PUMPS WERE INSTALLED. ALL WERE GASOS!

GASO PUMP & BURNER MFG. CO.,
TULSA, OKLA.

GASO

after nearly fourteen years of continuous service. The work of taking up and salvaging the line was started on September 29th and to date, approximately fourteen miles has been removed and either sold or is awaiting use again in other parts of the field. The work of taking up the line is now practically at a standstill due to weather [illegible] resumed again in the early spring.

By far our biggest work at Salt Creek during the year has been the adoption of electric power pumps to take the place of steam and gas engine driven pumps. The [illegible] going on since the early part of the year and at the present time, we have one hundred and fifty-five of these pumps installed. One hundred and nine of these are new pumps, made by the Gaso Pump and Burner Mfg. Co., and are gear driven by 25 HP, three phase, constant speed induction motors made by the General Electric Company. The balance of forty-six pumps are old steam and gas engine power pumps which have been converted for use with electric motor drive. Electric power pumps have proven better in every way than the steam or gas engine pumps, as they require less attention, are more economical in operation and, being driven by constant speed motors, do not run the risk of tearing themselves to pieces if they loose suction while the operator is away from the pump building.

During the year, we laid in the Salt Creek field, 54,943 feet of various sizes of water line, 180,123 feet of oil gathering line and during the same period, took up 104,973 feet of oil gathering lines. At the present time, our Salt Creek-Casper trunk lines consist of three main lines, each of

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Saddle Gate Valves

Power Plant Piping, Coils and Headers of all kinds made at our Etna plant, Sharpsburg, Pa. Write for booklet.

NOTHING seems to bring out the dependability of Kelly and Jones Valves quite so well as the exacting conditions of certain classes of oil and gas service.

Dependability is but one of the features of the K. & J. Saddle Gate Valve. This saddle style is of compact construction and very economical in service owing to its simplicity. The steel saddle around the body holds the bonnet securely in place, yet it can be removed quickly, giving access to the interior for cleaning or repairing.

The solid disc in this valve is very narrow and V-shaped at the bottom and can, therefore, be seated more readily when dirt and sediment has collected between the seats in the valve.

Finished in all iron, or iron body brass mounted in ½" to 6" sizes.

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NO matter what kind of power you are using, wouldn't you be interested in a drilling method that would cut your costs materially and, in addition, add to the ease of drilling?

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Perfect drilling motion at all depths of hole

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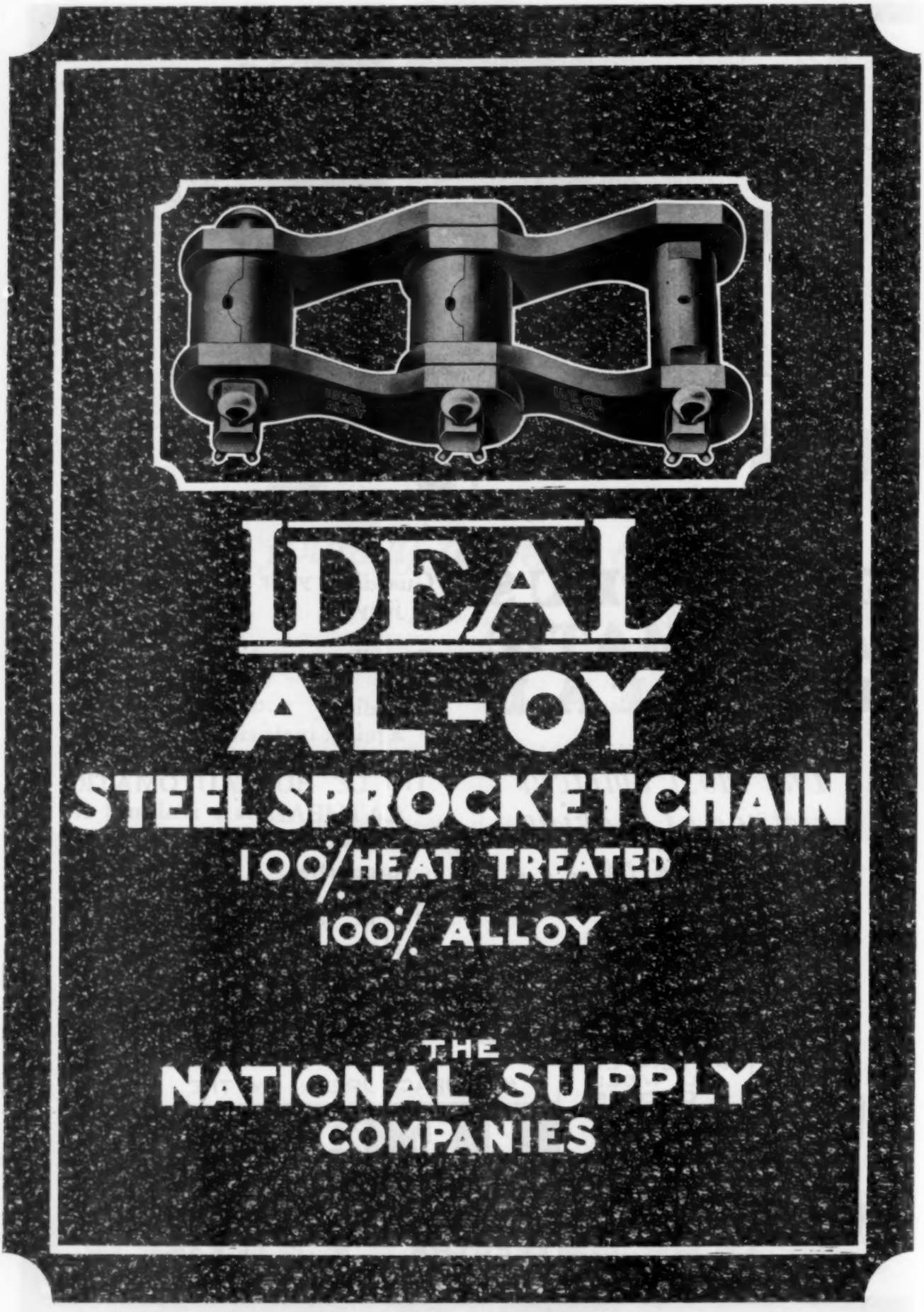
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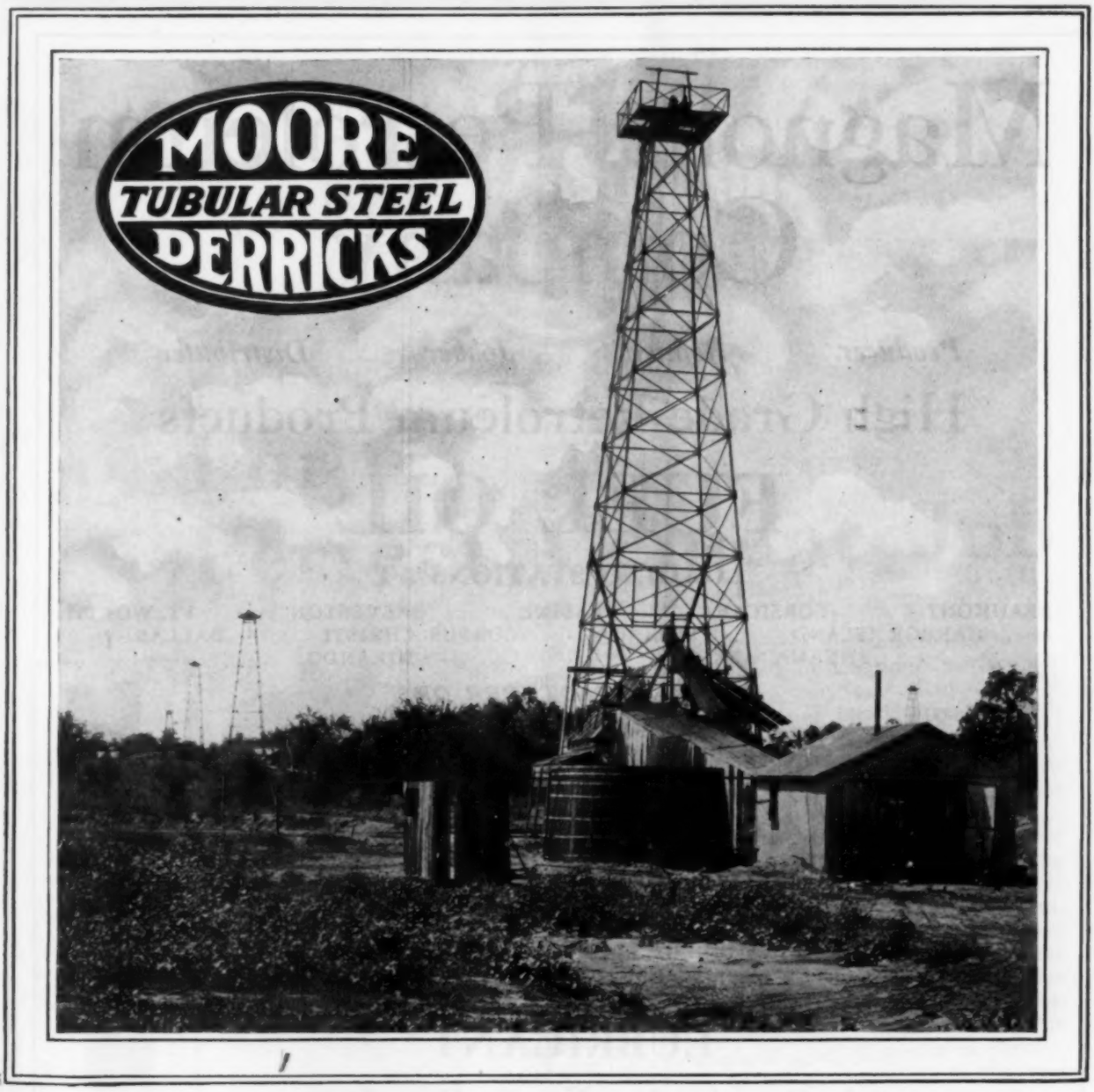

Strength for Every Emergency

The tube or pipe, when used as a column to carry compressive loads, is the strongest structural section known. It gives a greater strength by a margin of 40% or more as compared with other structural sections — the very thing you need to meet every emergency of time and service. This simple fact, with many other exclusive features of the Moore construction, accounts for its proven dependability. Of course, the Moore derrick costs more money; but that you ultimately make up in savings on freight and hauling alone. For the Moore is not only the strongest, but also the lightest derrick in existence. That's why there are more Moore derricks sold and in use than all other steel derricks combined.

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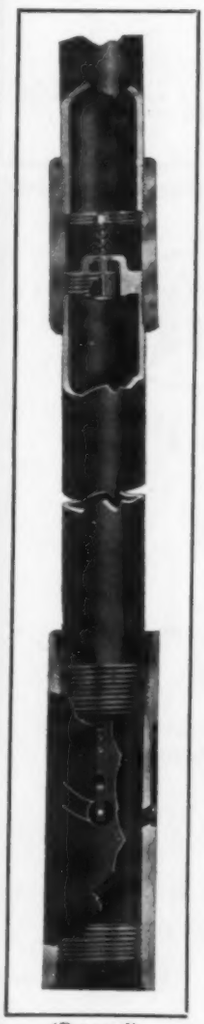
Lorraine Built

For a Perfect Cement Job



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Any device which genuinely contributes to the operator's peace of mind, by insuring a perfect job with full safety, during any precarious oil field operation, such as cementing off, deserves a medal.

The Mak-Shur Cement Barrel has received and is receiving medals every day which amount to more than any World's Fair Grand Prix, viz: medals of operators' appreciation. Its use is practical insurance of a perfect cement job of oil and water strings of casing, or casing at the bottom of the well. The cement is forced through diagonal ports —up, out, and around the casing in spiral movement. The number and size of ports in the barrel effect even distribution of the cement. The shoe insures accurate centering. There is no weight on the slips in setting the casing on the bottom of the hole. Circulation is thus established without moving the casing thereby eliminating all danger of its parting. Cement can also be set at any point in the well with the same unvarying success.

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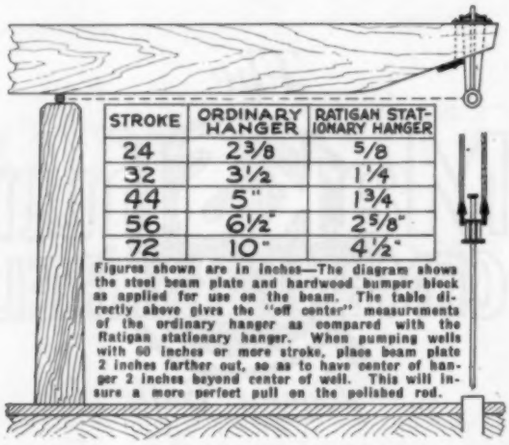
No. 13 Sucker Rod Roter and No. 6 Polish Rod Grip

No. 15 Sucker Rod Roter with No. 1 Shock Absorber attached and No. 6 Polish Rod Grip.



STROKE	ORDINARY HANGER	RATIGAN STATIONARY HANGER
24	2 3/8	5/8
32	3 1/2	1 1/4
44	5"	1 3/4
56	6 1/2"	2 5/8"
72	10"	4 1/2"

Figures shown are in inches—The diagram shows the steel beam plate and hardwood bumper block as applied for use on the beam. The table directly above gives the "off center" measurements of the ordinary hanger as compared with the Ratigan stationary hanger. When pumping wells with 60 inches or more stroke, place beam plate 2 inches farther out, so as to have center of hanger 2 inches beyond center of well. This will insure a more perfect pull on the polished rod.

The purpose of the steel beam plate is to insure a firm and level surface for the flat top hanger. The purpose of the bumper block is to force the hanger OUT on the up stroke, resulting in a more perfect pull at all times.

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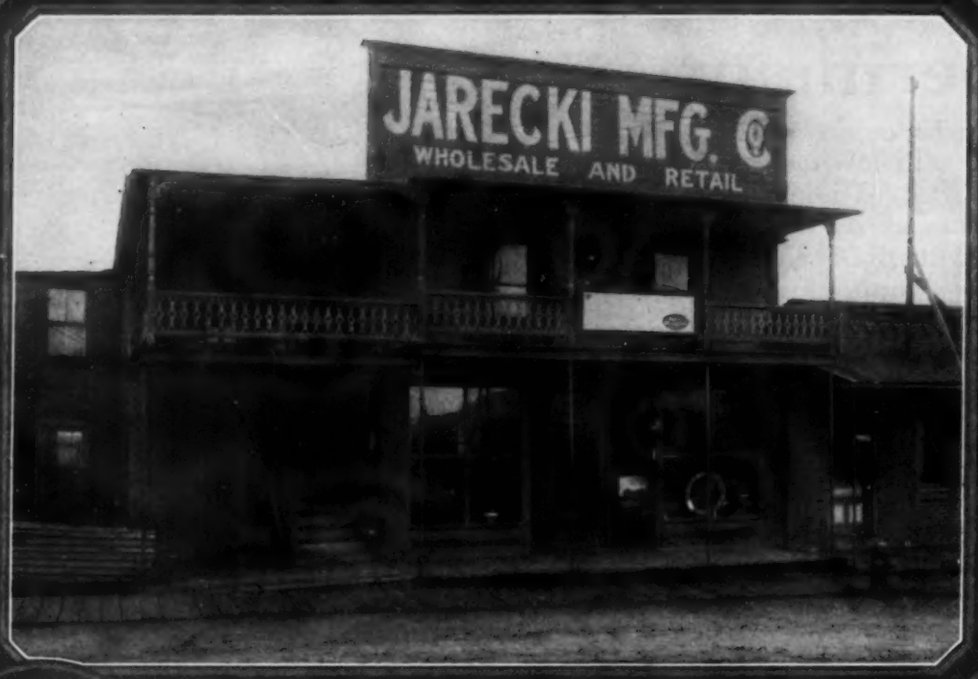

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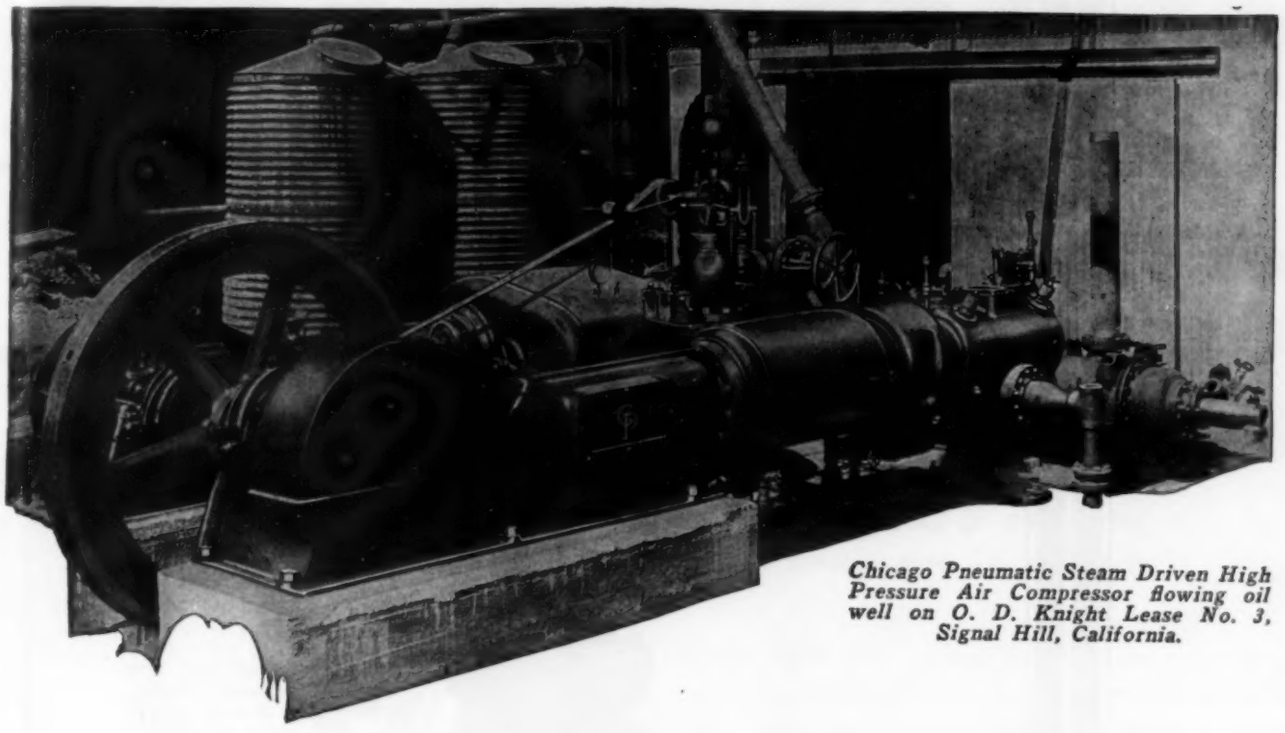
He's putting it up

All set



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INDEX TO ADVERTISERS

A

Acme Fishing Tool Company ..... *
Aetna Ball Bearing Mfg. Co. ..... *
Ajax Iron Works ..... *
Allen & Courtney ..... *
Aluminum Company of America ..... *
American Cable Company 43
American Telephone & Telegraph Company.. *
American Well Works ..... *
Andrews Steel Company 95
Athey Truss Wheel Company ..... *
Axelson Machine Company ..... Back cover

B

Baash-Ross Tool Company 80
Baird Supply Company ..... *
Baird Tool Works ..... *
Baker Casing Shoe Company ..... *
Barnickel, Wm. S., Company 66
Becker Specialty Company ..... *
Bessemer Gas Engine Company ..... *
Braden Company 46-47
Bray, T. F. 87
Bridgeport Machine Company ..... *
Brown, G. 72
Buckeye Traction Ditcher Company ..... *
Burns Tool Company ..... *
Butler Manufacturing Company ..... *
Byron Jackson Pump Company ..... *

C

Cameron Iron Works ..... *
Carter, O. M. 18
Central Steel Company ..... *
Central Tube Company 89
Chicago Pneumatic Tool Company 15
Clark Bros. Company 36-37
Clark Machine Company ..... *
Coatesville Boiler Works ..... *
Columbus Sucker Rod Company, The ..... *
Continental Motors Corp. 24
Continental Supply Company 21
Cornell & Company 87
Crain Ready-Cut House Company ..... *
Cunningham Company ..... *
Cyclone Fence ..... *

D

D & B Pump & Supply Company ..... *
Darling Valve Manufacturing Company 16
De La Vergne Machine Company ..... *
Dunn Manufacturing Company 69

E

Eagle Picher Lead Company ..... *
Eastern Texas Electric Company ..... *
Eastern Torpedo of Ohio Company 80
Eclipse Paint & Mfg. Company ..... *
Elliott Core Drilling Company ..... *
Emsco Derrick & Equipment Company ..... *

F

Federal Supply Company ..... *
Fetty, C. C., & Company ..... *
Fort Worth Laboratories 90
Franklin Valveless Engine Company ..... *
Frick-Reid Supply Company 73

G

Gardner Governor Company ..... *
Gaso Pump & Burner Mfg. Company 3
General American Tank Car Corp. ..... *
General Electric Company ..... *
Gott, H. P., Manufacturing Company 89
Goulds Pumps, Inc. ..... *
Greenspon's Sons Iron & Steel Company 96
Guiberson Corporation 71
Gulf Refining Company 98

H

Halliburton Oil Well Cementing Company 97
Hardway & Cathey 90
Harrisburg Pipe & Pipe Bending Co. ..... Inside back cover
Hercules Motors Corp. ..... *
Hercules Supply Company ..... *
Heydrick Mapping Company 90
Hinderliter Tool Company ..... *
Hirsch & Brown 90
Hope Engineering & Supply Company 85
Hopkins, Edwin B. 90
Hotel Baltimore ..... *
Hough Manufacturing Co., Charles N. 77
Hughes Tool Company ..... Front cover
Humble Oil & Refining Company ..... *

I

International Derrick & Equipment Co. ..... *
International Supply Company ..... *
Iron King Manufacturing Company 14

J

Jarecki Manufacturing Company 13
Jefferson Union Company ..... *
Jensen Bros. Manufacturing Company ..... *
Jones Company, The S. M. 88
Jones-McLaughlin, Inc. ..... *
Johns-Manville, Inc. ..... *

K

Kansas City Hay Press Company ..... *
Kelly & Jones Company 5
Kerotest Manufacturing Company ..... *
Keystone Pipe & Supply Company 88
Kobe, Incorporated ..... *

L

Lancaster & Allwine 82
Landis Machine Company ..... *
Larkin & Company ..... *
Layne & Bowler 83
Le Bus Rotary Tool Works 7
Leonard, P. G. ..... *
Linthwaite-Thompson ..... *
Lorraine Corporation 11
Lucey Manufacturing Corporation ..... *
Ludlow Valve Manufacturing Company ..... *
Ludlum Steel Company ..... *
Lufkin Foundry & Machine Company ..... *
Lunkenheimer Company ..... *

M

M & V Tank Company ..... *
Magnolia Petroleum Company 10
Maloney Tank Mfg. Co. 82
Maverick, Phillip 90
McEvoy, J. H., & Company ..... *
McIntosh & Seymour Corporation ..... *
Metric Metal Works ..... *
Mexia Planing Mill 90
Mission Sales Co., Inc. 75
Moore, Lee C., & Company 9

N

National Supply Companies 8
National Transit Pump & Machine Co. 76
National Tube Company ..... *
National Turnbuckle Derrick Co. ..... *
Neil House 87
Northrup Equipment Company 66
Nuttall Company, R. D. 41

O

Oil City Iron Works ..... *
Oil Country Specialties Mfg. Company ..... *
Oil Well Supply Company 31
Oklahoma Steel Casting Company ..... *

P

Parkersburg Rig & Reel Company 2
Patrick, R. S. 93
Pattin Bros. Company ..... *
Peden Iron & Steel Company 86
Petroleum Iron Works ..... *
Petroleum Rectifying Company 49
Pioneer Tank & Boiler Company ..... *
Price, W. Armstrong ..... *

R

Ranney Oil Mining Company 87
Ratigan, J. P. 12
Reading Iron Company 4
Reed Air Filter Company ..... *
Reed Roller Bit Co. ..... Inside front cover
Regan Forge & Engineering Company 32-33
Regan Sales Company ..... *
Reid, Joseph, Gas Engine Company ..... *
Republic Supply Company ..... *
Ring, Dewitt T. 93

S

Sargent Engineering Company ..... *
Shaffer, J. E., Company ..... *
Shaffer Specialty Company ..... *
Simplex Equipment Company 93
Sinclair Refining Company 56
Sivyer Steel Casting Company ..... *
Smith, H. C., Manufacturing Company 17
Smith Separator Company 51
South Chester Tube Company ..... *
Southern Engine & Pump Company ..... *
Southwestern Purchaser ..... *
Spang & Company ..... *
Spengler Core Drilling Company ..... *
States Engineering Company ..... *
Steiner, Dr. George 90
Stone, Jesse R. 87
Sullivan Machinery Company 86
Sullivan Co., The ..... *
Superior Tube Company ..... *

T

The Texas Company 12
Texas Cyclone Fence Company ..... *
Titusville Forge Company ..... *
Titusville Iron Works, The ..... *
Trumble Gas Trap Company ..... *
Tyler Tube & Pipe Company, The 95

U

United Iron Works 89
United States Torpedo Company ..... *

W

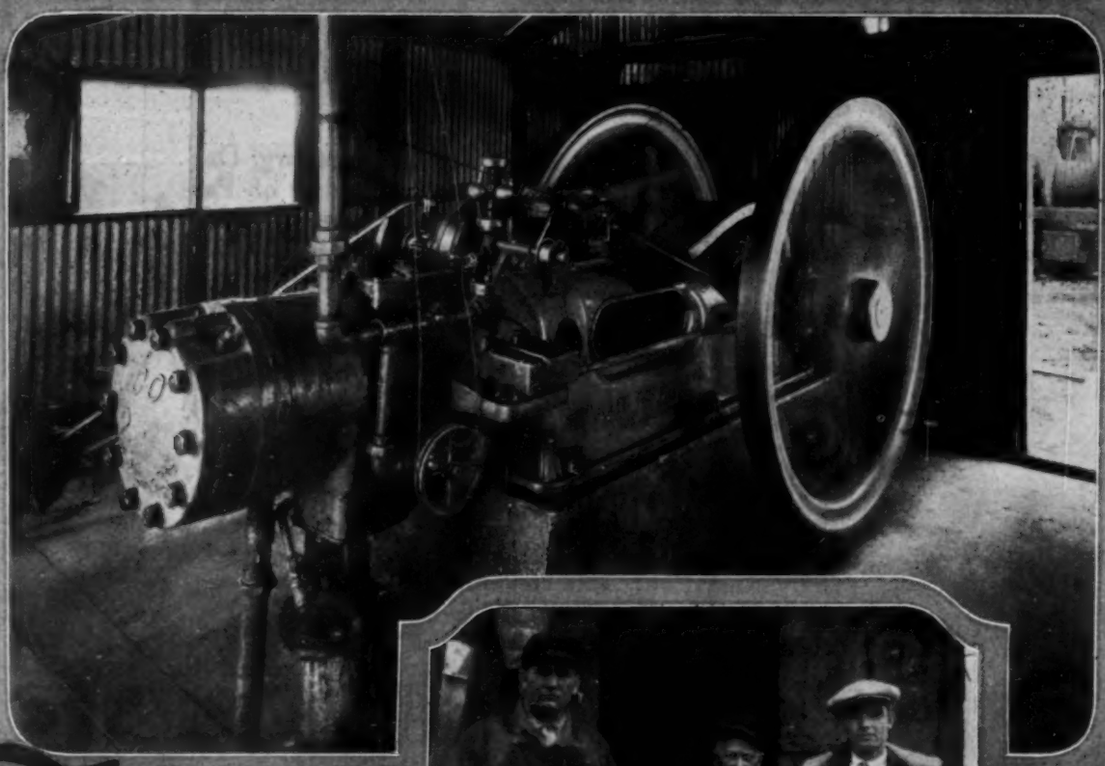
Ward Chemical Company ..... *
Waukesha Motor Company 78
Webster, C. W. 82
Westcott & Greis, Inc. ..... *
Westcott Valve Company, Inc. ..... *
Western Machinery Company ..... *
Westinghouse Electric & Mfg. Co. 6
Wheeling Steel Corp. ..... *
Wickwire-Spencer Steel Company, Inc. ..... *
Williams Tool Corporation 39
Williams & Co., J. H. ..... *
Williamsport Wire Rope Company ..... *
Wilson Oil Tools Corporation 90
W-K-M Company ..... *
Wyatt Metal & Boiler Works ..... *

Y

Yale & Towne Company ..... *

Z

Zero Hour Torpedo Company ..... *



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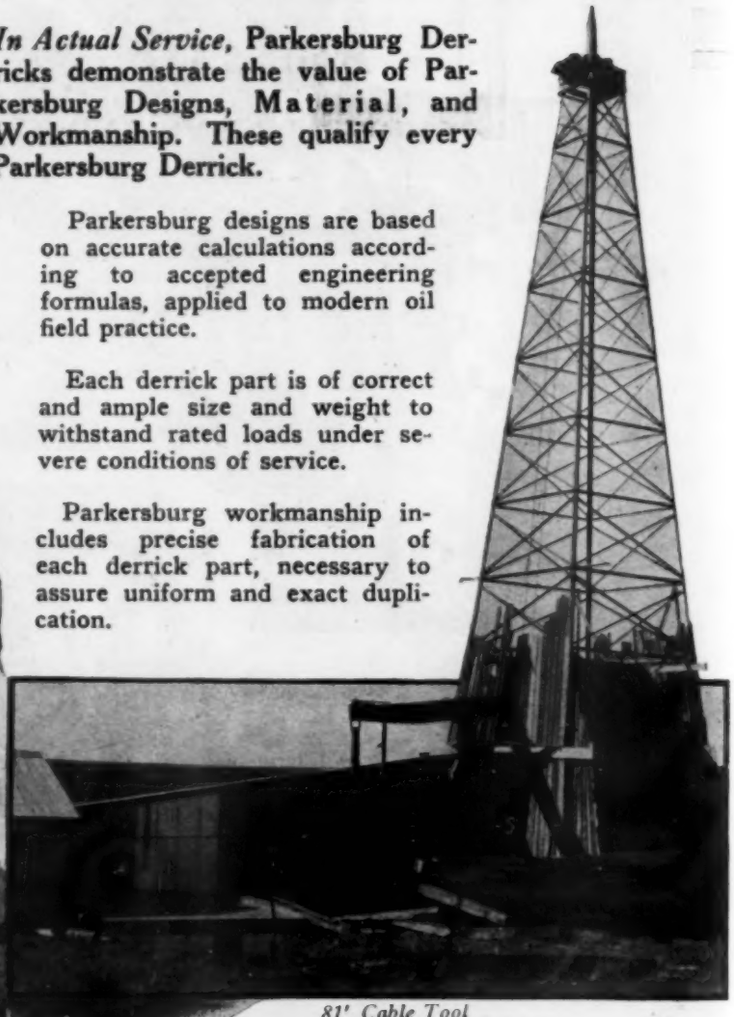

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The OIL WEEKLY

April 23, 1926 Volume 41, Number 5

TABLE OF CONTENTS

CURRENT NEWS AND TRADE ARTICLES

WEAK FUEL PRICES ONLY CHANGE IN MARKET—BUYERS SWAP CRUDE..... 25
By H. H. King

SEEK RE-ADJUSTMENT OF CRUDE RATES IN NEW MEXICO 26

CRANE COUNTY WELL GOES TO SALT WATER WHEN PLACED ON PUMP..... 26

OLIVER SAYS UNIT PLAN MUST COME—BUT HOW, HE DOESN'T KNOW..... 27

BETTER METHODS WILL PUT BAKU FIELD AMONG FOREMOST IN FUTURE 29

EXPECT RESULTS FROM MEXIA TEST THIS WEEK 30

THIS CALIFORNIA PUMP STATION CALLED "PIPE LINE WORKERS' PARADISE".... 35
By Wm. V. Gross

HERE IS OKLAHOMA'S FIRST OIL WELL.. 40
By Grady Triplett

EFFICIENT OPERATION OF BOILERS MAKES FOR CONSERVATION 44
By F. G. D. Muller

GRADY COUNTY WILDCAT SHOWS 39.4 GRAVITY OIL AT 2786 FEET..... 52
By Roye Munsell

ROCKY MOUNTAIN AREA SHOWS SLUMP WITH KEVIN-SUNBURST OUTPUT OFF 53

BOLING TO FRONT AGAIN AS WELL MAKES 6000 BARRELS 54
By Wallace Davis

COLE FIELD GASSER NOW MAKING 450 BARRELS OF OIL 54

SHOTS BRING IN RECORD SIZE WELLS FOR PANHANDLE THIS WEEK..... 55

SHALLOW FIELD FOR YOUNG COUNTY.... 55

CALIFORNIA OPERATORS TO DRILL RESTRICTED AREA 55

TESTS SEEK LOWER CRETACEOUS SERIES IN LOUISIANA FIELDS 58

FEDERAL COUNSEL SEEKS TO ADVANCE DATE OF OIL CASES..... 58

NEW PRODUCTION ADDS TO LOS CERRITOS OUTPUT 60

LOS ANGELES HARBOR SHIPMENTS FOR MARCH 77

CARIB SELLS OPTION ON INTEREST IN COLON 82

BUREAU OF MINES ANNOUNCES REPORT ON OKLAHOMA FIELDS 90

REGULAR WEEKLY FEATURES

NEWS BRIEFS ON PIPE LINE WORK..... 34

CRUDE PRICE QUOTATIONS 57

DAILY AVERAGE PRODUCTION FIGURES FOR PAST WEEK BY FIELDS 59

CONDENSED DAILY AVERAGE PRODUCTION FIGURES BY WEEKS FOR 1926..... 59

COMPLETIONS IN ALL U. S. FIELDS FOR THE PAST WEEK 60

DETAILED WILDCAT DRILLING REPORTS FOR ALL SECTIONS 64

NEW WELLS STARTED—PERMITS GRANTED AND LOCATIONS MADE IN CALIFORNIA, OKLAHOMA, KANSAS, TEXAS, LOUISIANA AND ARKANSAS 70

NEW EQUIPMENT, CATALOGS, BULLETINS AND BOOKS OF INTEREST TO PRODUCERS 79

LETTERS OF PAUL PEEBLES, P. S. G..... 81

"SQUEAKS FROM THE BULL WHEEL".... 91

BUYERS' GUIDE 92

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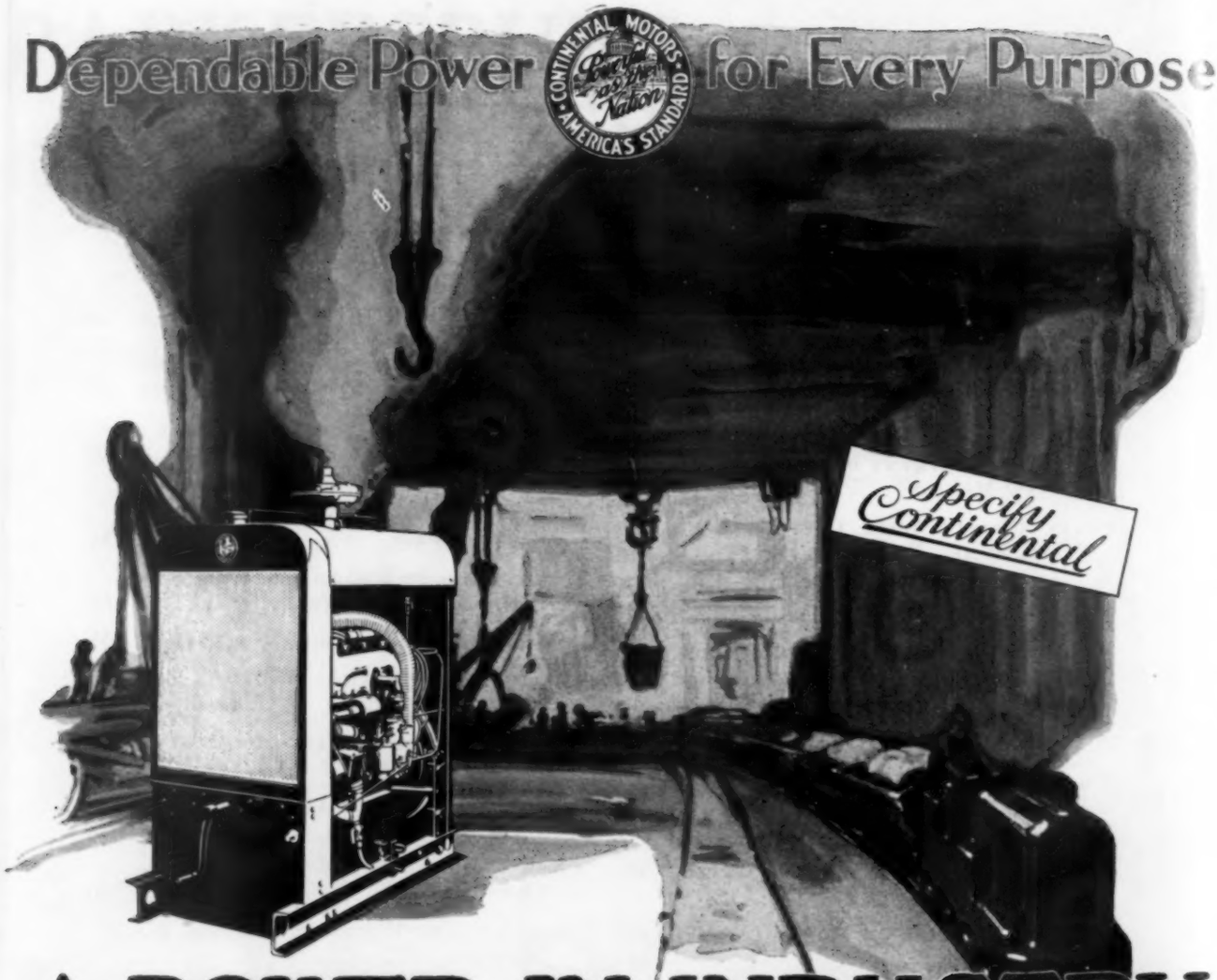

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Weak Fuel Prices Only Change In Market—Buyers Swap Crude

By H. H. King
Staff Representative

OTHER than a minor break in prices on fuel oil, the refined and crude markets in the Mid-Continent failed to experience any noticeable change in activity or prices during the past week.

Refiners' quotations on fuel oil decreased from 5 to 10 cents per barrel over the past week after having reached a seasonal high level of $1.50 per barrel, and even better in some of the manufacturing centers, when reduced plant operations cut down the current supply. Mid-Continent refiners have had almost full control over the fuel oil and kerosene markets in recent months, while on the other hand the domestic and export buyers of gasoline have held a tight grip on the gasoline situation for a like period.

Runs Curtailed

Efforts of gasoline buyers to bring about cheaper prices led up to a general curtailment of crude runs to stills, and this condition automatically lowered fuel oil production to a level that consumers experienced difficulty at times in covering on their requirements.

Prior to the break in fuel oil prices last week, some of the large industrial and railroad consumers were threatening to return to coal and lignite, as prices on the latter products were more economical to certain classes of consumers. This development in the refined market has not been followed by sufficient price strengthening on gasoline to protect the refiners, who are operating on high priced crude at a very narrow margin of profit, if any.

The early spring movement of gasoline has been somewhat limited this year, owing to adverse weather conditions in the largest gasoline consuming territory, but buying is appearing with each spell of good motoring weather, and normal trading is expected within the next few weeks. Refiners' quotations on U. S. motor grade of gasoline are firm at 10 cents per gallon, while the asking price of most of the plant owners is a fraction of a cent higher. The export market is void of activity, with the three leading export purchasers of Mid-Continent spot gasoline out of the market.

Refiners Have Small Surplus

The economical position of the Mid-Continent refiners has been such in recent months that very little effort could be made towards accumulating a surplus stock of crude to carry as reserve for the heavy refining period early next summer. Premiums have been held in check on daily crude contracts without any appreciable change for nearly three months, while the bonus for spot oil has been cut to less than that being paid for daily runs. This being especially true in the North Texas district, which is usually the first to register a change in premium offers, due to crude production being below the normal requirements of the major pipe lines and independent plants taking oil from the district.

Spot Crude Moves

Spot crude has changed hands lately in North Texas at the posted price, or at a premium somewhat below the dime bonus applying on daily runs, owing the refiners not being able to pay more and operate their plants. Major pipe line companies have not overlooked opportunities to pick up spot oil at the posted price in this district, but the producers have been assured by the independent refiners that premiums will be restored when refined market prices permit same, so permanent pipe line connections are not being accepted from the majors by producers catering to the spot market.

The practice of swapping crude located at a disadvantage to private pipe lines has been avoided heretofore by many of the major units, but a noticeable change regarding this policy has swept through the Mid-Continent. Many deals have been worked out since the first of the year whereby transportation costs have been greatly reduced for all parties concerned, and at the same time have deliveries made at points most convenient for final marketing, or refining.

Gulf Pipe Line Company made connections several months ago with practically all of Magnolia's leases in the Mexia and Wortham fields, while Magnolia received a like amount of crude from Gulf's leases in the Lytton Springs and Lockhart fields. Sinclair recently tied into all of Simms Oil Company's leases at Mexia, Wortham and Corsicana-Powell fields, while Simms is to have the refusal of Sinclair's crude production at Smackover. Humble and Prairie have also worked out exchange deals, while The Texas Company has always carried out this policy, as does Atlantic Oil Producing Company. Marland and White Eagle have recently arranged to exchange Kansas and Texas Panhandle crude. Transcontinental and Prairie had a crude swapping agreement in effect until recently, while Empire and Roxana have a similar plan in effect with Gulf. The increased demand for high gravity crude has stimulated this exchange courtesies, and other deals are now pending.

Seek Readjustment of Crude Rates In New Mexico

Artesia, New Mexico.—A concerted movement has been started by the various refiners in the Artesia district and at other points in New Mexico to get relief on present freight rates applying on refined products. The tariff on tank car shipments of gasoline is cheaper in many instances when the destination of the commodity is outside of the state than to ship an equal distance to a point within the state. Since the Interstate Commerce Commission has no jurisdiction over the intrastate rates, the refiners are preparing to present their plea to the State and Railroad authorities, and it is expected that considerably more crude will be refined within the state should cheaper rates be given.

The freight rate reduction made early this year on Artesia crude by the Santa Fe Railroad, which serves the field through its Pecos River Valley branch extending from Clovis to Pecos, resulted in an advance being made promptly by local crude purchasers on their posted crude prices. The Santa Fe put in a 22½ cent per 100 pounds rate on Artesia crude to Texas Gulf Coast points for export, and this rate automatically opened the way for Atlantic Coast refiners to offer more for Artesia crude than that being posted by the local pipe line companies, and still be under Mid-Continent gravity scale prices. The pipe line companies serving the Artesia field headed off the threatened outside competition by advancing the posted price on the higher grade to $1.70 per barrel.

Drilling operations in the Artesia field have not been materially increased since the higher crude prices were posted, as would be expected, probably due to the several concerns controlling most of the acreage, and not being disposed to hurry up their development work. The field is doing about 3000 barrels daily, and most of this oil is being purchased and transported from the field via the Illinois Pipe Line Company, which is controlled by the Ohio Oil Company, and the New Mexico Pipe Line Company, which is controlled by the Continental Oil Company. Both of these lines make tank car shipments of crude to skimming plants at Roswell, Albuquerque and Clovis, New Mexico and to El Paso and Amarillo, Texas. The Continental Oil Company is gradually increasing the capacity of its skimming plant at Artesia. The Sullivan Refineries, Inc., which has a plant at Dayton, New Mexico, holds a few contracts with lease owners in the Artesia field to refine their crude on a percentage basis. This plan is understood to net the producers an average of 25 cents per barrel more for their crude, while at times the percentage runs even higher.

Crane County Well Goes to Salt Water When Placed on Pump

San Angelo, Texas. — Salt water trouble developed early this week in the Magnolia Petroleum Company et al's wildcat oil producer on University lands in northeast Crane County shortly after the well was paced on the pump. The well is credited with having pumped about 10 barrels of oil during the first 15 minutes, and salt water then flooded the hole. Magnolia acquired a one-sixth interest in the well and 40-acre tract and about 1280 acres of leases near the well early this month from Church and Fields for a cash payment of $150,000, and $250,000 additional payable from one-third of the first oil produced. A swab was lost in the bottom of the hole at 3030 feet before sale negotiations were opened with Magnolia.

The well has flowed intermittently by heads while cavings and the lost swab were being drilled up by Magnolia's crew, with a 40 barrel flow of pipe line oil occurring Sunday night. The hole was cleaned to the bottom last Thursday, and steel line measurement revealed a total depth of 3040 feet, thereby indicating that the hole may have been deepened in drilling up the swab.

The appearance of salt water in Magnolia's wildcat producer proved somewhat of a surprise to operators holding nearby acreage, since water had not put in its appearance prior to the pumping of the test. The hole is open from 2450 feet, where 8¼ casing was landed after encountering the oil pay, to the bottom, and a leaky casing seat may be responsible for the trouble. The log of the well is structurally low, as compared to other widely scattered tests in Crane and adjoining counties, having logged the top of the salt at 1145 feet and top of the Dolomitic lime at 2925 feet, and pay at 3029 feet (cable measurements) with a surface elevation of 2601 feet. J. S. Cosden et al's Connell 1, located in section 15, block B-22, and about 15 miles northwest of the Magnolia test, logged the top of the salt at 950 feet, with a surface elevation of 2802 feet. A comparison of the two logs places the Cosden test 396 feet higher on the salt at sea level depth than the Magnolia well.

Storage is being erected to make a production test of F. P. Zoch & Marland Oil Company's wildcat producer on the Keith-Hughes ranch, section 92, Crane County, after having swabbed 65 barrels of oil Saturday and 50 barrels Sunday from saturated lime at 2564-70 feet (SLM), with a little water in evidence. This test is on a line between the Magnolia and Independent Oil and Gas Company's Crane County wells, being 2.6 miles north of the latter well. The Independent well is flowing 115 barrels pipe line oil daily through tubing set at 1914 feet, with oil coming from saturated lime at 2038-45 feet.

Owen-Sloan Oil Corporation's wildcat producer on the Otis Chalk ranch, section 113, block 29, Howard Couny, began flowing by heads at irregular intervals during the past week. This well is the shallowest oil producer in West Texas, having drilled through the oil sand at 1577-83 feet to a total depth of 1586 feet, with a surface elevation of 2430 feet. A string of 6⅝-inch casing has been set on bottom with a perforated point extending through the oil horizon. The well flowed a 40 barrel head of 31 gravity oil early this week, and tubing is being placed in the hole with expectations of making a steady flowing producer from the well. Although the well is located some distance from pipe line and railroad facilities, both Marland and Magnolia are soliciting the crude for purchase. A number of tests will be started on nearby acreage shortly on the strength of the initial showing of this wildcat producer, which has been in process of completion for two weeks. The water supply for drilling purposes is somewhat limited in this area.

J. Edgar Pew, vice-president, and F. H. Lahee, chief geologist for the Sun Oil Company, returned to headquarters at Dallas last week after having spent the past several months inspecting oil properties and prospecting rights held by the Sun interests in Venezuela, South America.

Oliver Says Unit Plan Must Come—But How, He Doesn't Know

JUST how the unit plan of operation in petroleum production will come is uncertain, but as to its eventual adoption there can be little doubt, is the prediction of Earl Oliver, prominent independent operator of Ponca City, Okla. Speaking before the Arkansas, April 9, Mr. Oliver recommended the unit plan as a positive cure for the evils now resulting from the competitive drainage system.
tive drainage system.

The speaker declared that in his opinion practically all the economic difficulties presented in the petroleum industry can be traced to competitive draining. Referring to the many economic problems, he said: "If these evils do, as I believe, very largely arise out of competitive drainage, then they should disappear with the disappearance of competitive drainage. Until however, sufficient interest is aroused within the industry to induce operators in a common pool to co-operate 100 per cent on certain points of common interest where the action of one compels like action on the part of others, or some outside force compels them to do that, I know of no way competitive drainage can be avoided.

Engineering Viewpoint

"From an engineering viewpoint, one operating unit of each pool would of course completely solve the difficulty. Efficient extraction would then become a decidedly simple engineering problem making possible the ideal extraction. In addition, the ability under these circumstances on the part of each operator, at no loss to himself, to withhold production until these temporary oversupplies had passed, would steady the market and perhaps induce some of that improvement in utilization described by certain manufacturers of automotive engines as being so easily possible.

"Furthermore it would make of the producing end of the oil industry a business with some stability instead of the hectic speculation that it now is. It would cause the development of a dependable proved reserve for the nation.

"While, from the engineering viewpoint, one unit for each pool is ideal, from the broader outlook of political economy, this must be taken with some reservation. The small operator must be protected and should be perpetuated, for thus new blood is injected into the industry and competition maintained. To secure the efficiency of the former and not lose advantage of the latter is the difficult task confronting the industry. Perhaps some middle ground can be found.

"It is somewhat significant and also surprising that out of the 16 speakers who appeared before the Federal Oil Board, February 10, and 11, four speakers, in one form or another, in effect, stated that whether we like it or not, unit operation in some form is immediately ahead in the petroleum industry; that more efficient methods of extraction, such as air, gas, and water drives, and retentions of gas pressure, will compel that development. Others of the 16 looked upon it as a probable tendency, and none disputed or opposed it. But of course there were decided differences of opinion as to how it should be assisted in coming about.

Two Extremes

"The extreme position advocated compulsory unit operation imposed by government. The other extreme urged that it be left to the industry to work out, undisturbed and unassisted. The middle course suggested was that it be worked out through co-operation of industry and government."

To illustrate the efficiency of the plan suggested, Mr. Oliver gave interesting figures on a study which he has recently completed. He describes this research to prove his point: "Some time ago in the endeavor to ascertain just how important a factor this competitive drainage condition is in causing the outstanding ills of the oil industry with which we are all so unpleasantly familiar, I selected three typical competitive drainage pools and traced their influence on the industrial situation through from the date of their discovery up to a few months ago. Then I selected two other pools where, for one reason or another, competitive drainage was absent, and in like manner, traced their influence on the industrial situation from the dates of their discovery up to a few months ago. This comparison of influences confirmed, in my opinion at least, that which I had previously suspected, and which I am trying to show you—namely, that competitive drainage is largely responsible for inefficiency in extraction and also inefficiency in utilization.

Competitive Drainage Type

"For the competitive drainage type we used Wortham, Powell and Tonkawa deep sand. Your own Smackover would be an excellent example of this type. As representing the other type we used Rainbow Bend, in Kansas, and the Reagan County pool in Texas. Wortham had 91 competitive blocks, Powell 122 competitive blocks, Tonkawa deep sand had 13 competitive blocks. On the other hand, Rainbow Bend, which was a comparatively small pool, was made up of one noncompetitive block. Three large companies owned it, but each of these companies owned only an undivided interest in the entire block, so that they are partners in this block, but their partnership did not extend into acreage or properties elsewhere. The Reagon County pool was made up of two semicompetitive blocks, that is, of the two companies interested, each owned its acreage spearate from the other, yet being closely enough allied to each other that co-operative agreements relative to rates of development, spacing of wells, and other matters of that character, were easily made. The competitive influence of these two groups were illustrated by charts at the public hearing before the Federal Oil Board. They aroused considerable discussion on that occasion and I have thought you might find them of some interest.

"All of us, of course, are familiar with the radically different manner in which development progresses around a new discovery when the acreage is badly cut up, as contrasted with solidly held blocks. Where acreage is solidly held around a discovery well we know that only one or two additional wells are started and that further development awaits information to be disclosed at the completion of these wells, influenced also by the performance of the discovery well in the interval. The extent of the field is cautiously felt out a well or two at a time. Dry holes are thus prevented. Development is extended only as the owner requires the oil for his business; gas is conserved; little storage is required. If market conditions are not right oil is left in the ground until it is right, and then brought out only as the market will take same without serious injury to the price structure. Few of this type of fields exist, but such as do, or have existed, were never considered menaces to the industry, for it was well known that they would not be rapidly drawn upon in such manner as to break down the price structure. They also became actual proven up oil reserves, desirable, both from the nation's viewpoint as well as from the owner's viewpoint.

"On the other hand, you are equally familiar with the type of development that characterizes the vicinity of a discovery well when the acreage is badly cut up. Without awaiting to ascertain whether a new pool has been opened or merely a freak well discovered, many additional tests are started at once, regardless of market conditions; regardless of pipe line facilities; regardless of needs of the owner for

the oil for his business at that time. Feverish activity continues, and if the discovery well has actually opened a pool the total quantity is extracted in the shortest possible time, regardless of the needs of the industry, in spite of the fact that a nation's valuable resources are being ruthlessly depleted without any need for the same. They are forced into channels of consumption wholly inefficient and which have no incentive to more efficient utilization because the price is so low that efficient utilization is no inducement. Perhaps worse than all these, however, is the fact that under this type of development the gas is permitted to escape freely. Pressures are reduced, permitting the gas to come out of solution, increasing the viscosity of the oil. Much of the oil that would otherwise flow readily to the well and be extracted becomes congealed and remains clinging to the sand gains.

Slides Introduced

"Slide No. 1 was prepared merely to illustrate the rate of development around a discovery where acreage is cut up. This represents the deep sand at Garber. In April of last year a 2800-barrel well was discovered at a depth of 4380 feet. Wells at that depth cost around $75,000 each. The land is held in 160-acre tracts. Notwithstanding these fairly good sized tracts and that the importance of the discovery was yet unknown, 36 additional tests were started at once, representing a total cost of $2,500,000.

"Slide No. 2. A like occurrence took place in the Thomas pool, 18 miles northeast of the Garber field. On May 9 a 4000-barrel well was completed at a depth of 3955 feet. Before a second well was completed 27 tests had been started. Most of them were either dry or so small as to be noncommercially productive. This character of development is not peculiar to Northern Oklahoma, but is characteristic of methods wherever competitive drainage exists.

"Slide No. 3 shows the five pools previously named, three of which were highly competitive drainage pools and two were of the co-operative unit drainage type. All of them are drawn to the same scale. It is to be noted property lines very largely control the spacing and location.

"Slide No. 4 indicates the ratio of drilling activity to producing wells on each of the five pools at various periods in the life of these pools. It will be noted that at Tonkawa two months after the discovery well came in, 36 wells were drilling for each producing well completed. Within one month after the discovery of Wortham, 30 wells were drilling for each well producing. In less than one month after the discovery of Powell, 14 wells were drilling for each well producing. On the other hand, in Reagan County the ratio of drilling wells to producing wells never did go beyond three drilling wells for each producing well, and Rainbow Bend never had more than 2½ drilling wells for each producing well.

"Slide No. 5 indicates the different rate in which production is extracted from these different classes of pools. It is to be remembered that all five of these pools were discovered during a period of severe overproduction, at a time when the whole desire of the industry was that no additional pools should be discovered or additional oil thrown on the market until production had declined to the level of consumption. The markets were demoralized. The industry had suffered financial reverses. Under these circumstances the influences on the industry of these two contrasted groups were strikingly different. In the competitive drainage pools, immediately discovery was made the oil was extracted as fast as men and money could make that possible. Although it was not needed and tankage had to be built somewhere to take care of a quantity equal to the entire output of each of these three fields, yet in two months time Wortham had climbed to a total production of 160,000 barrels daily, and then declined with equal rapidity. Powell climbed to a daily production of 320,000 barrels in six months, likewise to decline even more rapidly. Tonkawa climbed to a production of 80,000 barrels in five months.

"On the other hand, neither Rainbow Bend nor Reagan County ever had a high mark of production. Rainbow Bend increased slowly and did not reach its peak until it was 19 months old. Reagan County never had a high peak, and was still ascending when it was 27 months old, at the date of the making of this chart.

"Slide No. 6 shows the relation of supply and demand of petroleum in the United States during the period in which these pools were discovered. At the beginning of 1922 the demand was 1,520,000 barrels per day. However, Haynesville, Burbank, Bristow, Lyons-Quinn and some of the Los Angeles Basin pools had come in, all of which created an overproduction of about 300,000 barrels per day. This excess, of course, was forced into any channels that could take some of it, which explains the very rapid increase in consumption during the last half of the year 1922. During the first half of 1923 some additional California fields came in, again creating a large overproduction, and the consumption was stimulated to some extent, but its previous stimulation had already taken up much of the slack. An amount equal to the great bulk of this oil was, therefore, stored. It was during this period of overproduction that Powell was discovered, its output stimulated and thrown on the market.

"Reagan County was discovered at approximately the same time, yet it is to be noted that Reagan County did not produce enough oil during that period of great overproduction to enable charting same. The same can be said of Rainbow Bend. Tonkawa, on the other hand, came in and produced the bulk of its oil during the overproduction. Wortham did the same thing. And then came your own Smackover, which again produced a great quantity of oil at a time when the markets would have been better served without it. You gentlemen, of course, are in better position to understand the difficulty of curbing this type of development than would most other bodies of men. You have just recently passed through that experience. Your neighboring state, Louisiana, has been producing oil for 25 years. Through a peculiar combination of circumstances production has been strung out pretty much over that 25 years so that Louisiana has enjoyed considerable benefits from its oil and gas productions over a long period. In your state, however, you discovered oil only five years ago. In five years time you produced two-thirds as much as your neighboring state, Louisiana, did in 25 years. Has the nation, or the industry, or Arkansas or you, gentlemen, derived two-thirds as much benefit as was derived in Louisiana? Perhaps not. Frantic development, while appealing to our sense of the dramatic, usually does not lead to the establishing of highly profitable permanent business institutions."

West Texas Shallow Field Has Fourth Well

Cisco, Texas.—The prolific shallow field on the W. I. Cook ranch in Shackelford County added a fourth flowing well early this week when Roeser-Pendleton, Inc., of Fort Worth, completed Cook 1-B (Sec. 85) in regular sand at 1220-35 feet making 985 barrels natural during the first 12 hour gauge. This well made 1414 barrels during the first 24 hours, and is a south offset to Humble's flowing well. Roeser-Pendleton and Marland Oil Company's Cook 3-A (Sec. 85) failed to make a well in the reguar pay, being the first dry hole for the field, and is drilling below 1400 feet. New locations made during the past week in the field increases the total operations to 24, of which Marland is starting 20 tests.

Edgar Kraus, geologist for the Atlantic Oil Producing Company in the Artesia district of New Mexico with headquarters at Roswell, has been transferred to the West Texas district and has established himself at San Angelo.

T. V. Coleman, secretary-treasurer of the Simms Oil Company with headquarters at Dallas, has resigned to engage in the lumber business in Dallas. Coleman has been with the Simms Oil Company since August, 1919, having been listed on the first payroll made up for the company.

Better Methods Will Put Baku Field Among Foremost in Future

PLANS for expansion of the petroleum industry in the Baku fields of Russia are being pushed, and 1926 will probably put the Baku district on a par with any other in the world. Petroleum deposits in this area are known to be enormous, and with modern engineering practices being constantly introduced, it is now only a matter of short time until maximum production can be realized as needed.

A summary of what has been accomplished, and outlines of what it is hoped will be accomplished this year are contained in an interview given out by comrade Barinoff, the acting manager of Azneft, translated from "Isvestia."

By the beginning of 1926 up to 50 per cent of the total production of petroleum was accounted for by deep pumps.

This implies that we have resuscitated a number of abandoned fields, have brought back to life thousands of abandoned wells, have considerably decreased the working and technical staff on derricks, thereby lowering the cost of our production.

"Closed" Method

Following the application of deep pumping, one of the most important achievements of the Soviet authority must be considered the adoption of the "closed" method of exploitation. Many of the former petroleum men, who have not visited the fields for the last two or three years, would consider strange the almost complete absence of the traditional bailers, by means of which the petroleum was produced by the unpleasant and tedious method of bailing, whereby the output was directed into storages, impregnating the air with poisonous and easily inflammable gases. This, for the Baku oil fields, is now a thing of the past. Both in the case of these, a tractor is brought up to the erated by deep pumps, the oil is delivered into hermetical reservoirs. Under such method of "closed" exploitation 40 per cent of all our output is at present being obtained. Independently of external advantages, this system of exploitation affords the possibility of preserving the gas, holding it and leading it into special chambers, for utilization as fuel, and latterly this gas, which in the past was completely lost, has come to form an entire industry, which has even necessitated the changing of the denomination of our industry; we do not now call it the Azerbaidjan Petroleum Industry, as formerly, but the Azerbaidjan Petroleum and Gas Industry. The production of benzine from gas is at present being carried on at four points on the petroliferous fields. Two installations are at Surakhani and two at Saboonntchi. But this is only the beginning. In the near future we shall have a whole series of gasoline works, which will convert the gas, which was formely lost, into one of the most valuable products—benzine.

The second method of gas utilization is for fuel. Working on gas fuel we have now several thousand stoves, several hundred boilers and even a complete electrical station at Bibi Eibat. All this has enabled us to effect great economies in the use of liquid fuel.

Important Advantage

A very important advantage of the "closed" method of exploitation and the use of deep pumps, is that they afford the possibility of dispensing with derricks. Deep pumping and spouting wells we leave entirely without derricks. Instead of these, a tractor is brought up to the site, a portable draw-works is installed, and by means of this gear we are easily enabled to let down into the well the compressor or pump tubes, and to undertake the trial bailing of the well and other work, whereas, in former times, at every derrick there had to be special steam engines or motors, foundations had to be laid, etc. The rationalization in this direction is particularly important for us at the present moment, owing to the high price of timber, and moreover it is of advantage from the point of view of anti-fire precautions.

In the matter of drilling we have brought about a notable decrease in the cost of the work. The perfected method of rotary drilling is not utilized by us practically everywhere. A considerable item of the progress made in the sphere of drilling may be reckoned the invention of our engineer Capeliushnicoff. The substance of this invention is that it puts into action a small motor at a depth of from 2100 to 3500 feet and even more. In this manner, when we drill a well, on the surface of the ground we do not see any signs of technical activity. The whole set of tubes, from 2100 to 3500 feet in length, is kept in place, whereas under the old system of drilling the whole outfit revolved together with the drill, in consequence becoming loosened and worn out. This method we have already introduced on the fields at Chorasan and Pouta. The future of this invention is fully assured.

Studying New Science

Generally speaking, we attach the most serious significance to the question of invention and perfecting. At the Technical Bureau of Azneft we have a special inventions section. At this bureau many successful projects and plans, both by work-people and engineers, have been submitted. As one of the results which have been achieved by Azneft, may be cited the grouping installation of deep pumps. This is a mechanism by means of which one motor can put into action 10, 12 and even more wells. And for all these wells the technical personnel required is only two or three men, whereas in the past for each derrick there was required this number of laborers.

At the present time we are building a large refinery for the production of benzine from residuals. Formerly, benzine was obtained by us from whole crude only, and the residuals were either lost altogether or were utilized for less valuable products. Latterly, we have started up a refinery for benzine at Shubani.

The chief of our subsidiary undertakings is the Trans-Caucasian Metallurgical Works named after "Lieut. Schmidt," and then the works only recently started in the name of "Felix Dzershinsky." At the former we are manufacturing rotary drill rigs, centralized pumping plant and pumping jacks for deep pumps. The latter works is destined by us exclusively for the manufacture of deep pumps. The work-shops are fitted with lathes of the most perfected type brought over from America.

Making Own Equipment

Prior to 1924 at Baku neither rotary rigs nor deep pumps were made. Everything was imported from America. Now, apart from Azneft's works, rotary rigs and deep pumps are manufactured also at Sormovo, Briansk and other works belonging to the Union. A year ago we had no idea that we should attain to such a high degree of technical development.

The rationalization of the petroleum industry is in large measure due to our keeping in close touch with activities abroad. Comrade Serebrovsky's first trip laid the first beacon on the road to the perfecting of the petroleum industry in Azerbaidjan. His present trip will constitute the second beacon. He has gone abroad exclusively for the purpose of purchasing special equipment for the petroleum industry.

Apart from comrade Serebrovsky, we have sent abroad five engineers and twenty work-people. Some of these have already returned and the others will be back shortly. We have in view further foreign visits of this sort, as we consider that these are of great advantage to us. Both the engineers and work-people whom we send abroad acquire an extensive initiative and a greater assurance in regard to their work.

The results of all these achievements of ours react not only on the strengthening of our socialistic state but also on the improvement of the condition of our work-people. For example, about three thousand of our work-people are now living in good and well lit premises. One of the chief problems before us is to provide similar well lit and commodious premises for all the remaining work-people in our oil and gas industry.

Field work in January showed a decided improvement, resulting in a total of 16,836

meters drilled. The number of rigs in drilling and deepening at the beginning of January was: rotary, 112; rod, 77; cable, 31; a total of 240. During the month 22 new rigs were put into operation; 30 wells were completed, and nine were abandoned. Thus on February 1, the total number of rigs in operation was 260, an increase of 20 during the month.

Footage drilled in meters by each system of drilling and percentages of program fulfillment was as follows: rod drilling, 3082.2 meters, 111.8 per cent; cable, 4111.1 meters, 139.5 per cent; rotary, 9643.1 meters, or 139.8 per cent.

The total January footage, equalling 16,836.4 meters exceeded the original program by 33.6 per cent, the excess over the program being observed under all systems, including the cable system, which, as has been noted before, in previous months showed a considerable shortage as compared with program estimate.

In comparison with December, the January footage shows the following increases; by cable system, 1801.2 meters, by rotary, 1986.2 meters. Only in the case of rod drilling did the footage decrease, by 74.9 meters. In general, during January the increase in footage drilled as compared with December was 3612.5 meters.

During the first quarter of the year 1925, the footage drilled was 38,158 meters. For the four months including October and January, the total footage amounted to 54,994.8 meters.

A comparison of the extent of drilling operations for the quarter including October, 1925, and January, 1926, with the same period of the preceding year shows that the total footage drilled exceeds last year's by 27,345 meters, almost 100 per cent. The rotary system of drilling accounts for 19,528 meters increase, and the cable system, 9749 meters.

Apart from the general increase in drilling work, there should also be noticed the alteration in the system of drilling. For instance, in last year of operations, for the first four months, by the rod system there were drilled 15,278 meters, which in relation to the total footage drilled was 55.3 per cent; by rotary system, 12,030 meters, or 43.5 per cent, and by cable system, which was then only just beginning to be introduced, there were drilled during the four months only 342 meters, or 1.2 per cent. For the four months ending January 31, 1926, operations with the rotary system account for 57.4 per cent, cable 18.3 per cent, whereas the footage by rod drilling has decreased 24.3 per cent.

The average daily output of petroleum for the Baku district in January amounted to 13,901.8 tons, a slight gain over December. The total production for January reached 430,954.4 tons.

Plans for improvement in field methods include the equipping of 700 wells with meters and the installation of 270 gas traps. Besides this it is proposed to undertake on a large scale the work of fitting the storage tanks with gas-tight roofs.

Production by means of internal combustion engines will be increased and by the end of the year it is hoped to have 360 such engines installed, replacing the bailing method. Also by the end of the year 2061 wells should be equipped with electric motors.

New Bill Would Create Division of Safety

Washington, D. C.—Creation of a division of safety in the Department of Labor, "to reduce the hazard to life and limb of persons in industry," is contemplated in a bill introduced in the Senate by Senator Shortridge of California.

The California senator declared that there is now no adequate system of industrial accident reporting in the United States, the best obtainable estimate being that the death toll of industrial accidents is now under 33,000 per year and that nonfatal injuries total 2,500,000. The days of labor lost as a result of these injuries has been said to be 227,169,970 per annum, and the wage loss $1,022,264,866, he commented. Under the workmen's compensation laws of various states there is paid annually in compensation something like $250,000,000, or about one-fifth of the actual wage loss.

"It is hoped by this bill to put an agency of the Government in a position to collect and organize the actual facts in such a way as to greatly reduce these casualties," explained Senator Shortridge. "The full cooperation of the states and all other accident-reporting organizations will be sought, and it is believed secured, to the end that attention may be called, not in general terms but by specific reference, to the places and causes of these accidents.

Expect Results from Mexia Test This Week

Mexia, Texas.—The completion of the Transcontinental Oil Company's wildcat test on the J. D. Ross 24-acre tract which is testing a zone of faulting lying about 2½ miles west of the lower end of the Mexia field proper was in progress early this week. This test is credited with having taken a richly oil saturated core in the Woodbine sand pay at 2890-91 feet on April 10, as reported in these columns in detail last week, and since the favorable showing made by the core small operators and companies have been acquiring leases and royalties at fancy prices.

The Transcontinental Oil Company's test logged the Austin chalk at 2115-2474 feet, with a surface elevation of 483 feet, and the horizon at which the oil saturated core was taken gives the top of the Woodbine a minus depth of 2407 feet. Such being the case the oil saturated core in the Woodbine is considered sufficiently high above the usual water level in this district to produce oil. The test is located on the west bank of Nigger Creek, and a short distance northeast of Comanche Crossing on the Navasota River. The existence of a fault has been definitely determined by comparison of the log with others drilled in the general vicinity.

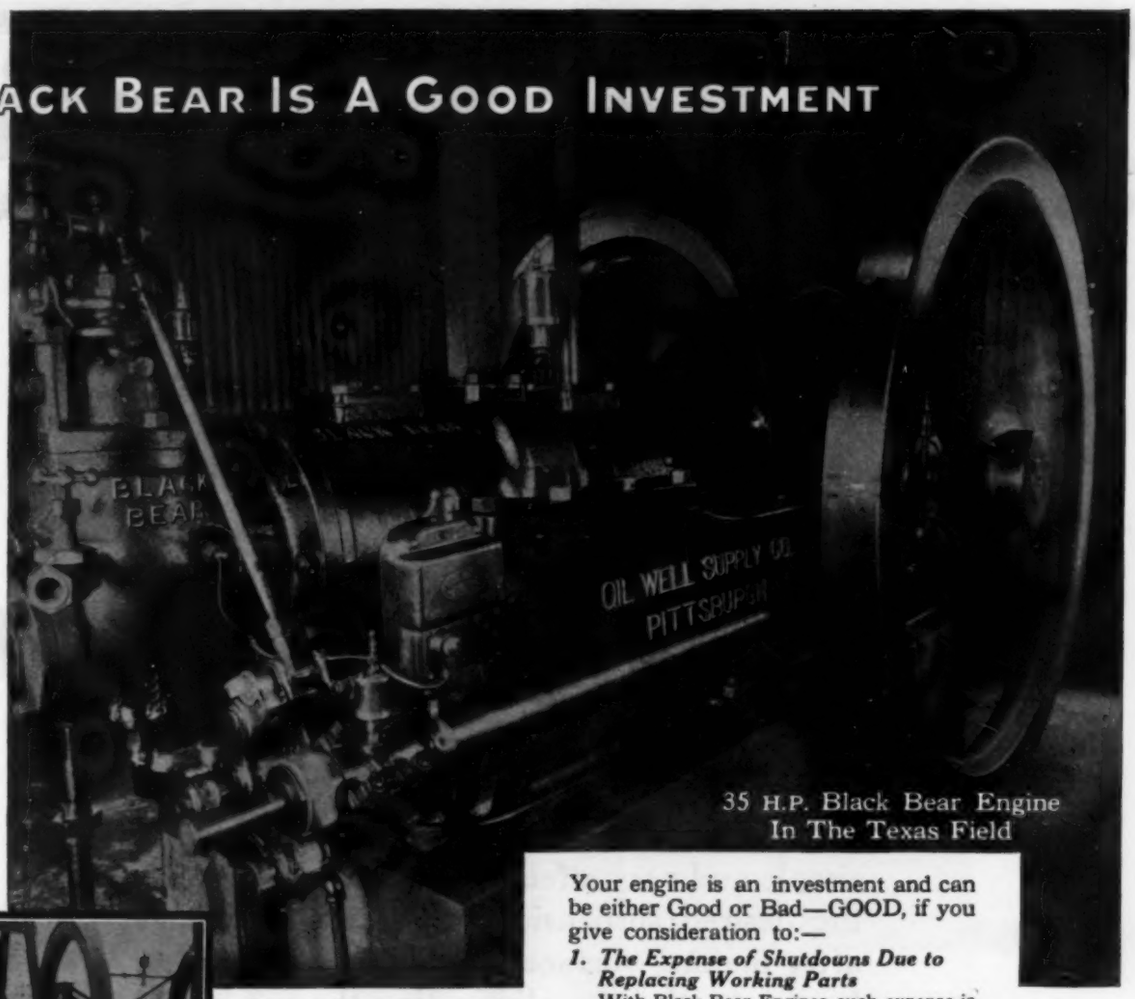
Transcontinental, Pure Oil Company and Reiter-Foster Oil Corporation control the bulk of the acreage in the area believed to be productive, and the latter two contributed towards the drilling expense of the Ross test. In the event of an oil strike on this fault, a big development campaign will follow immediately, while major company representatives are standing by to bid for numerous small tracts to the southwest and northeast of the above three companies' holdings. If production is established on this fault, which is parallel to the Mexia fault a leasing and wildcat campaign will be staged opposite the Wortham, Currie, Richland and Corsicana-Powell fields.

The cement plug was drilled out in the Transcontinental test Sunday, and unsuccessful efforts were made early Tuesday to take a core. Two trials were made with the core barrel, but each time the barrel closed without obtaining samples, indicating that the cement plug had not been fully penetrated. The crew were preparing to complete the task of drilling out the plug late Tuesday, and the core barrel was to be run shortly afterwards before drilling into the Woodbine formation with rotary.

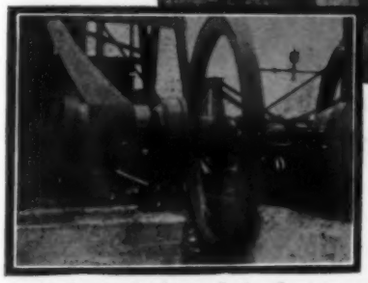
Crude stocks in the Mexia-Corsicana district were reduced 888,600 barrels during the month of March, leaving a total depth of 18,018,800 barrels on hand at the close of March. Steel storage facilities in the district amounts to 35,474,000 barrels. Humble is credited with having drawn on its stocks in the Mexia-Corsicana district 598,000 barrels during March.

Fred McManis, president of the W-K-M Company, Houston, is in Tulsa completing arrangements for the exhibition and demonstration of his company's pipe cleaning machines at the annual exhibition of the Natural Gas Supply Men, Inc., to be held in conjunction with the 21st annual meeting of the Natural Gas Association of America. The exhibition is scheduled for May 17, 18, 19, and 20.

A BLACK BEAR IS A GOOD INVESTMENT



35 H.P. Black Bear Engine
In The Texas Field



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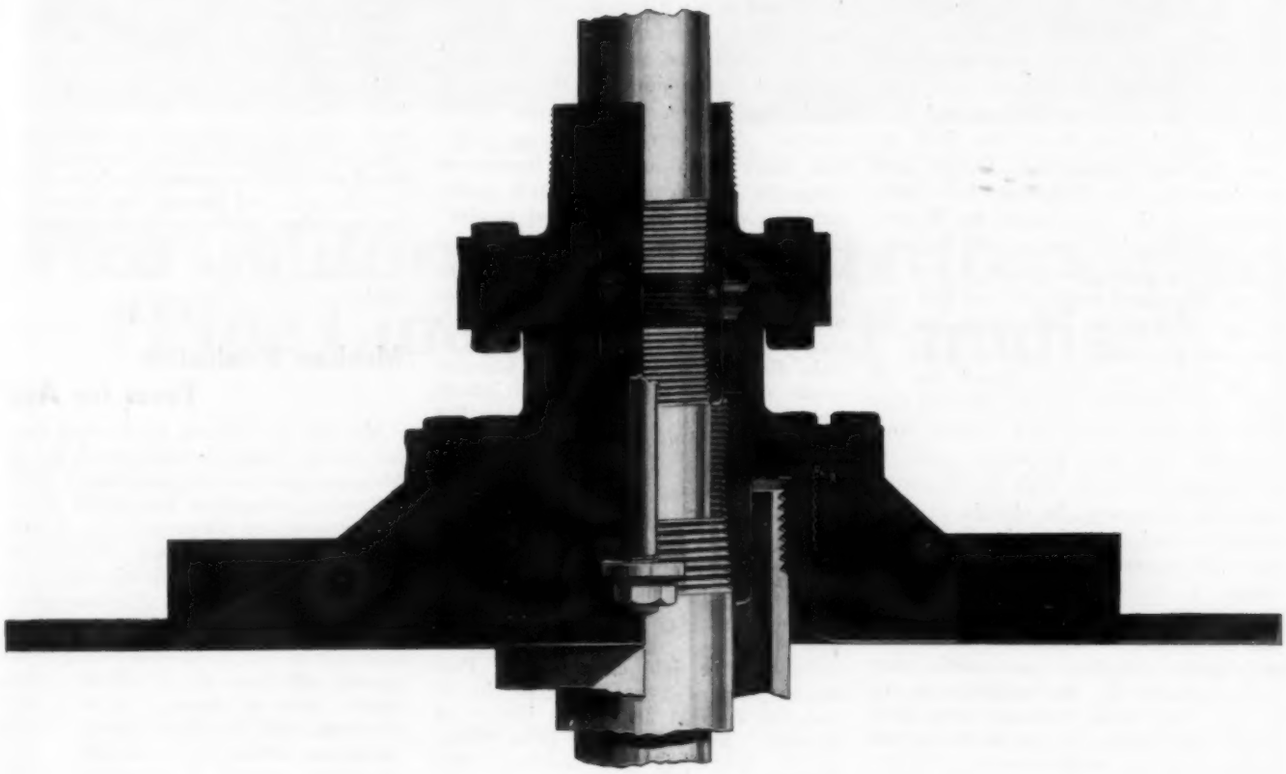

Lew D. Hilton, who is in charge of our Mid-Continent office at Houston has had a wealth of experience in directing oil drilling production and has for many years been recognized as especially qualified on control work. His services or his advice are at your command without charge. Call on him.

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NEWS BRIEFS ON PIPE LINE WORK

Gas Line to Be Built To Sipe Springs Pool

Cisco, Texas.—A market outlet for the abundant supply of natural gas now available from completed wells in the Sipe Springs field, near the Eastland-Comanche County line, is to be provided by C. O. Moore and associates of Cross Plains, Texas, by the construction of 54 miles of four and six-inch welded line from the field to Sipe Springs, Comanche, Dublin and Stephenville. Gas franchises have been obtained in the four towns by Moore, and a distributing system will be constructed in each place, with a rate of $1 per thousand cubic feet of gas applying to domestic consumers, less 10 per cent for cash.

An order has been placed for 43 miles of four-inch and 11 miles of six-inch National pipe, and actual construction will start promptly, with T. E. Patton, formerly with the National Gasoline Company, in charge of construction and operating the line. The line will operate without booster stations. C. O. Moore has been a successful oil operator in the Cisco shallow oil district in recent years, and has purchased complete gas wells that will partially fill the requirements of his gas line, while contracts have been made with owners of gas wells for the balance of his requirements.

Research Foundation Has Pipe Line Data

Chicago.—Approximately 2,000,000 barrels of crude petroleum will be produced in the United States every day in 1926 from a total of approximately 308,000 oil wells, according to the American Research Foundation, and present indications are that more than 2,000,000 barrels daily will be consumed.

"This enormous stream of oil," says the bulletin, "is steadily moving through pipe lines from the wells to the refineries. Oil moves through an 8-inch line at 500-pound pressure, at the rate of about 17,000 barrels in 24 hours. Under 900-pound pressure the flow is 22,000 barrels. Ordinary practice moves the oil in a line of this size at a speed of from 20,000 to 21,000 barrels a day.

"Two of the most recent of the larger pipe lines are the Humphreys line from the upper Texas fields to the Gulf Coast and the Sinclair line from Wyoming to connect up with the Mid-Continent pipe line system in Missouri. Total mileage of all pipe lines in the United States is about 65,000 miles."

Magnolia Pipe Line Co. Adds to Mirando Tanks

Laredo, Texas.—Magnolia Pipe Line Company has announced that two more 55,000 barrel steel tanks were ordered and shipped last week to its Mirando field tank farm, making a total of five additional tanks for the farm within the past month. Magnolia already had seven 55,000 barrel tanks erected. The increased storage facilities have been necessary, because of Magnolia Petroleum Company's recent purchase of one of the largest producing properties in the district, along with increased crude purchases from independent producers. An extension of Magnolia Pipe Line Company's eight-inch line from Luling to the Laredo district will take place as soon as crude runs by Magnolia reach about 8000 barrels daily, with assurances that same will hold around that level for a period of time.

Pipe Line Contracting Company Has New Office

Tulsa, Okla.—The Oklahoma Contracting Company with offices in Tulsa and a branch office in Dallas has opened up a field camp in the Panhandle area of Texas to serve the oil industry in that section to better advantage. Rex A. Hoover is in charge of the work in this territory with headquarters at Amarillo.

The Oklahoma Contracting Company is one of the oldest companies in the business in the construction of pipe lines and other oil country work. T. R. Jones and H. A. Gump, officials of the company, have just returned from an inspection trip to the Panhandle country.

Empire Buys Production In South Vernon Field

Wichita Falls, Texas.—Two producing leases in the South Vernon field with 31 wells pumping about 1100 barrels of crude daily were purchased last Thursday by the Empire Gas & Fuel Company of Bartlesville, Okla., from Jim McCamey, John Sherrin and Captain J. F. Lucey for a consideration of $1,350,000. The consideration involved a cash payment of $500,000; $650,000 payable out of one-half of the first oil produced; and $200,000 in Empire stock shares. The properties consists of a 100-acre tract on the W. H. Stephens land, and two 40-acre tracts on the Richardson farm, both being in section 83. First production was obtained on these leases in December, 1924.

Loops Near Completion On Big Lake Pipe Line

Fort Worth, Texas.—Pipe line facilities from the Big Lake district to the Gulf Coast of the Humble Pipe Line Company will be increased to 30,000 barrels maximum daily early next week by the completion of four loops totaling 129 miles of 8-inch line between Big Lake pump station and Comyn Junction, near the Ranger district. Humble started working on these loops early last month, and unusually good time was made by construction crews. The Big Lake field is averaging above 35,000 barrels daily, and Humble has been moving more than 10,000 barrels daily via tank cars from the field to the Coast. Humble is handling the entire production of the field.

Mexican Production Taxes for April

Mexican petroleum production taxes for April, 1926, as announced by the Mexican government, are shown in the following tabulation forwarded to the Department of Commerce in a cable from Commercial Attache A. V. Dye, Mexico City. The March taxes are given for comparison. Figures are in pesos per cubic meter.

	March	April
Crude, 0.93 Spec. Gr.	3.067	3.067
Crude, 0.96 or above	1.598	1.598
Fuel oil, 0.95 Sp. Gr.	2.831	2.831
Gasoline, crude	3.270	3.248
Gasoline, refined	1.635	1.624
Kerosene, crude	2,774	2.924
Kerosene, refined	1.387	1.462
Lubricants	2.50	2.50

Paint Company Opens Branch for Oklahoma

Tulsa, Okla.—Following a visit to the oil country of F. T. Jamieson, president of the concern, an Oklahoma office of the Eclipse Paint & Manufacturing Company has been opened here, 801 Mayo Building.

E. G. Johnson is in charge of the Oklahoma office and will have with him as salesman, F. M. Crow. Stocks for oil country paint products are now carried in Dallas and Kansas City. The object in placing a sales force in Tulsa is to develop distribution to the point that a stock will be carried in Tulsa.

J. M. Doane has been added to the Axelson Machine Company organization in California and assigned to the position of factory representative at Taft. Doane has been with supply companies in various sections of California for a number of years.

The "U" type bachelor bunkhouse in use on the Standard Oil Company of California's Northam Pumping Station lease. (Note the trees, flowers and shrubbery.)

This is not the front view of a Palm Beach winter retreat. It is the "back yard" of the Standard Oil Company of California's lease office at Northam.

This California Pump Station Called "Pipe Line Workers' Paradise"

By Wm. V. Gross
Staff Representative

NORTHAM pumping station of the Standard Oil Company of California presents a concrete substantiation of the theory that it pays an organization to minister to the social, physical and intellectual needs of employees.

This station, which long has enjoyed the reputation of being one of the most elaborate, orderly and efficiently operated of its type in the world, commonly is referred to in California as the "pipe line workers' paradise." Northam covers 80 acres, held in fee by the operator, and is located in Los Angeles County. It serves as headquarters for 140 men and has a pumping capacity of 120,000 barrels per day.

The lease proper of the pumping plant, which is about 24 miles from San Pedro and El Segundo, refining and export terminals for oil handled by Northam, provides quarters for 50 men, a majority of whom are bachelors. To house the resident employes, there are two types of bachelor bunkhouses and three types of bungalows for men with families. There are eight of these bungalows and four bunkhouses. Employes using space in them are charged a nominal rent.

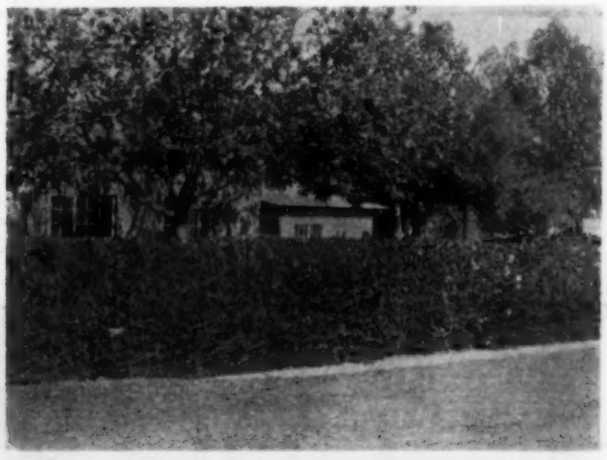
Well Furnished Bunkhouses

Bachelor bunkhouses on the lease are laid out in the conventional "U" design, so every room is an outside room, having a large window at the front and the rear and opening onto a covered veranda in front. Each of the rooms is furnished with a bed, chiffonnier, chair and lavatory stand. The wood and enamel work is white. When contrasted with the dark, oak-stained floors, this gives the rooms a suggestion of an immaculateness which somehow or other ordinarily is not associated with the condition of living quarters of those employed in the producing end of the industry.

In addition to each man's being afforded a private room, recreation and reading rooms have been incorporated in the bunkhouses. The Standard of California has seen to it that there is a certain amount of wholesome reading material in the rooms other than that naturally accumulated by lease employes.

There can be no statistical computation to point out the actual benefit derived by employer and employee from living quarters thus equipped, but particular advantages are obvious to those who have lived in company quarters

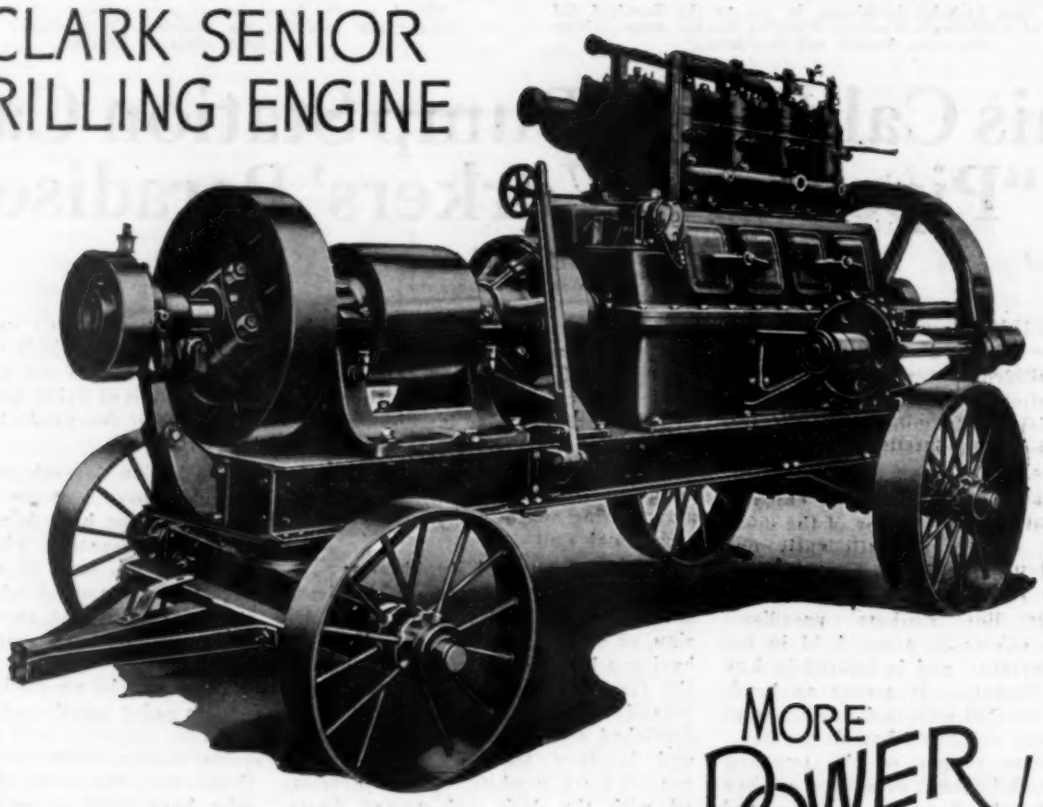
Lawn of one of the bungalows occupied by a married employee of the Northem lease. The flowers, lawn and shrubbery are kept in healthy condition by company gardeners.



Blacksmith and machine shop on the Standard's Northam lease. Note the abundance of shade trees and evergreen growth. (Trees do not grow naturally in Southern California. Most of them have to be planted.)

In TEXAS—

CLARK SENIOR
DRILLING ENGINE



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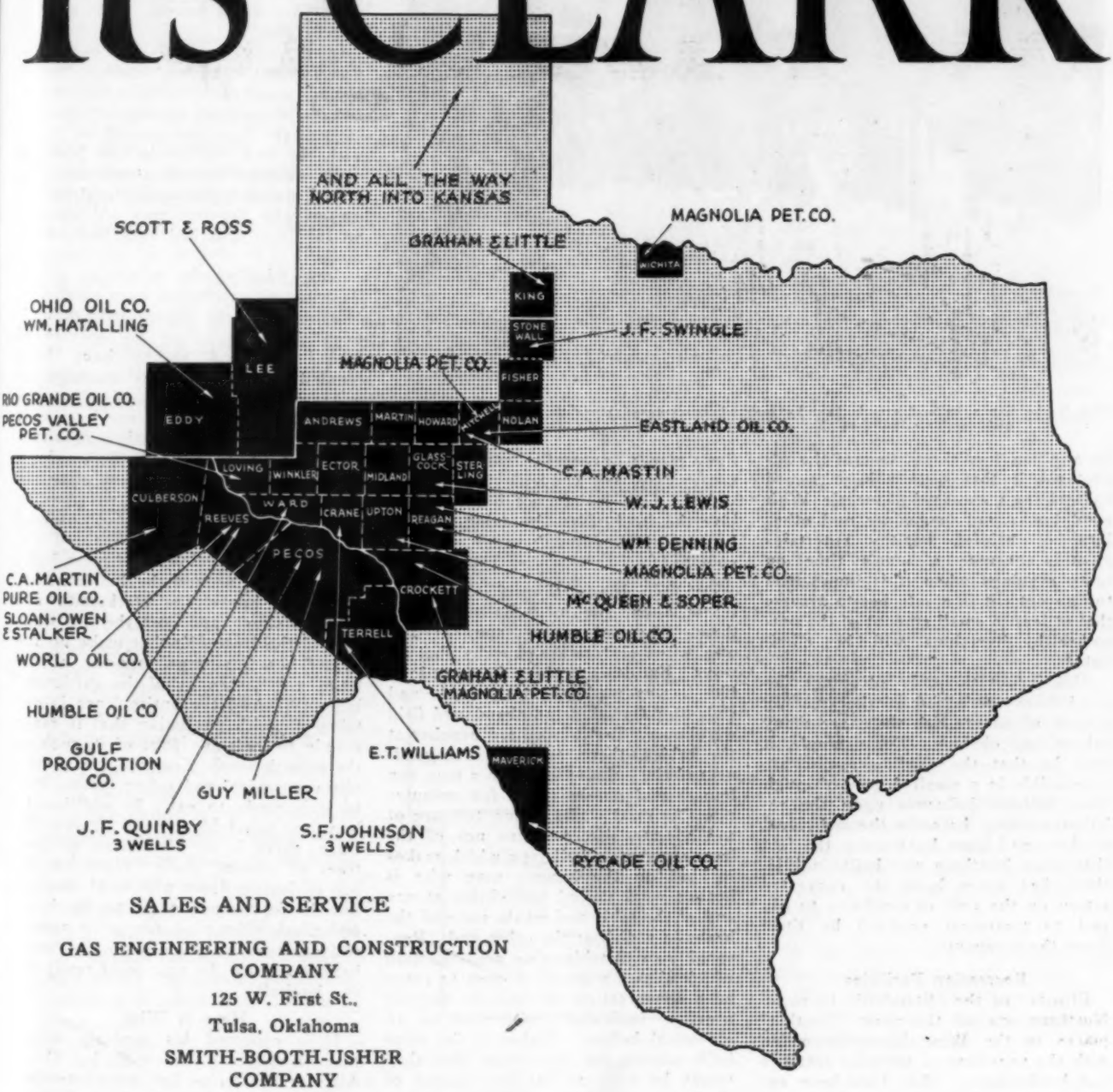

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Say you saw it in The OIL WEEKLY

This is the way a boiler house is kept by men whose company gives them a little more time and consideration than that employed in making out the pay check.

for any length of time. One of the advantages is that it is a help toward maintaining a standard of morale. With good books and magazines and other forms of helpful, healthy entertainment to consume a man's time on rainy evenings when it is impractical to "go out," it is a safe bet to assume that at least a small amount of the not-so-healthy diversions will be eliminated.

This is not the only advantage derived from maintaining the reading rooms, of course, for there are many others less obvious. For example, it may be that the reading rooms are responsible in a small degree, through their indirect influence upon the relation existing between the individual workers and lease bosses, for the fact that since Northam was built, in 1911, there has never been any concerted action on the part of employes to object to treatment received by them from the company.

Recreation Facilities

Efforts of the Standard to make Northam one of the most "liveable" places in the West have not ended with the provision of splendid cottages and bunkhouses. They have been expanded to include the establishment and upkeep of superior tennis courts, ball diamonds, horseshoe courts and other minor recreation facilities.

For a glance at the two mess halls on the lease, one would think that the company has laid particular stress on the old adage: "The way to a man's heart is through his stomach." Admittedly the typical oil field mess hall ostensibly is merely a place to perform the necessary operation of eating food. There is little connected with the fixtures, service and dishes of such institutions to tempt the palate of any but a ravenous man, as a rule. Men eat in these places, generally speaking, because they are conveniently located, and the food filling, not because they love the food. Not—by a long shot—because it reminds them of mother's cooking!

But there is something distinctly different about the mess halls at Northam. The floors are spotless—not only when visitors are expected, but always. Furniture in them does not look like it was made from the odds and ends of a derrick or an abandoned field warehouse. Instead of hard benches at the tables, there are honest-to-goodness chairs—chairs in which a man can lounge and smoke for a few minutes after his meal. The tables, too, are of a moderate size, and are not of the long army mess hall type which makes it hard on the hungry man who is hoarse, weak voiced, and sitting at one end of the table and wants some of the beans in a dish at the other end. Reasonably small tables they are—the kind which allows a group of men to carry on a conversation successfully without previous individual cultivation of an oratorical bellow. Dishes in the mess halls convey no impression that they might be used as handhole plates of slush pump pistons in an emergency, but look as though they were meant to hold a white man's victuals. Neither do the knives, forks and spoons look like they had been surrepticiously removed from the blacksmith's tool rack.

It is safe to venture that when the chefs on the Northam lease are preparing a meal, they have something in mind besides provision of the proper amount of starch, protein, carbo-hydrate, sugar and fat. They seem to take pride in removing the ennui that inevitably results from lack of variety in diet. It is apparent to the observer that an unusual amount of effort is made on their part to present the food in a tempting way. So far as the chefs are concerned, this may be practicing psychology for protective purposes in the event of an occasional drop in the quality of the culinary department's production, but it makes the men feel as though they were sitting down to something worth eating, and not to mere "filler."

Incidentally, in walking over the lease with the writer, another "unexpected" guest remarked that the service and quality of food put out by the mess halls might have had something to do with the fact that there had been so little sickness among employes. He hinted also that the food might be the reason why the two first aid stations on the lease had had very little work to do.

Some idea of the extent to which lease beautification has been carried at Northam may be gotten from knowledge that more than 200 species of tree, flowers and shrubs have been planted there. These are attended by a crew of landscape gardeners who know their business and are interested in a competitive way in their resultant showings. A tree, shrub, flower bush or lawn that shows lack of attention does not exist in Northam.

Landscape gardening is not confined to the office lawn and those of the bunkhouses, bungalows and mess halls. Open ground around the boiler house, the pump house, the blacksmith and machine shops, and even the fire walls around the large 55's that make up the 900,000-barrel storage capacity of the lease, give testimony of the gardeners' industry. And the entire lease is not taken up with gardening that is made simply to look at. Part of it, such as the growth on the firewalls, has a definite economical and safety factor. Part of it is made to eat. In addition to luxuriant vegetable growth all over the lease, there is an abundance of fruit trees of various kinds. (Imagine the joy of laying down a pair of six-inch line hooks long enough to reach up and pluck off a nice, fat, juicy orange and eat it in the shade while the "stabber" is getting the next joint ready for the hooks!)

Here is Why

It is expected his modesty would make him refuse the credit, but O. O. Allen, general pipe line superintendent for the Standard in Southern California, is commonly held responsible for the present condition of the lease.

Some operators may ask, "Why has the Standard of Southern California apparently provided employes at Northam with living quarters superior to those they ordinarily would enjoy elsewhere? Can it be that the moral and intellectual condition of workers in pleasant environment is given more of an opportunity to expand than that of those whose surroundings are not so pleasant? Do you believe that the health of employes on such a lease will be better, generally speaking, than that

The oil man's cost-cutting pipe-threader

the Rapiduction

cuts the time of threading—of changing die heads—of changing chasers. Cuts his cost of chasers and dies.

No need to change die heads for different sizes—one Williams Rapiduction Die Head covers the complete range of threading.

Many hours are saved in the course of a year's work. The unproductive labor of changing die heads is wiped off the cost sheet. You get 100% production.

SAVING IN CHASER COST: Only two sets of chasers needed to cover the complete range of the machine—and these are changed in a few seconds.

You can change or replace A SINGLE CHASER BIT with the Williams Rapiduction Die Head—instead of having to replace the entire set. 10 seconds time against 220 seconds; a saving of 3 minutes and 30 seconds.

Just multiply this by the number of changes made in a year, and you will get some idea of the time savings that are made by the Williams Rapiduction Pipe Machine.

You save a lot on dies

A complete set of dies covering the range from 2½-inch to 6-inch costs your plant only a fraction as much as with the old type of machine.

Besides, if you snip one die on an old type head, you have to replace the complete set or else stand the cost of recutting. With a Rapiduction Die head you merely replace a single chaser bit.

DOES THREE TIMES THE WORK

You can pick up a 2½ in. pipe, chuck, set, thread, cut and ream—and then change over to, say, a 4 in. pipe, pick up the pipe, chuck, set, thread, cut and ream—in 2 MINUTES AND 20 SECONDS—

As compared with a total of 7 minutes and 6 seconds with the old type machines.

RIGID HEAD MEANS LONGER LIFE: You don't buy pipe threading equipment often—and when you do buy it, you want definite insurance of long productive life.

Complete range of Rapiduction Die Heads 1 to 6 inches—or more. Range with same set of dies, 2½ to 6 inches.

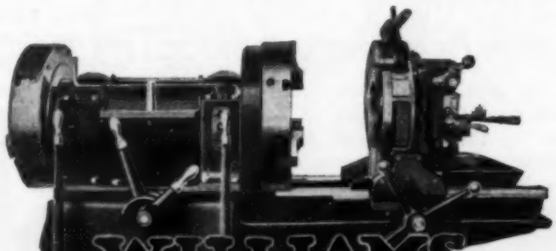
The Williams Rapiduction Die Head covers the complete range of threading from 2½ inches to 6 inches with the one set of chasers. First cost of dies is less; replacement costs are reduced; hours of time saved in changing over machine.

You want your machinery to be actively producing—not laid up for repairs, running up overhead charges.

Construction of the Rapiduction Die Head gives LONGER LIFE because the head is set rigidly. As you know, the whole burden of effort in a pipe threading machine comes on the die head. The Rapiduction's rigidity reduces the liability of side thrust or torque.

And the extra bearing surface in the die holder gives extra years of life—wears much more slowly, because there is hardly the slightest side thrust.

Write today for illustrated bulletin, giving you full details of the definite advantages of the Williams Rapiduction Power Pipe Machine.



WILLIAMS TOOL CORPORATION
Erie, Pa.

WILLIAMS RAPIDUCTION POWER PIPE MACHINE

Say you saw it in The OIL WEEKLY

Here Is Oklahoma's First Oil Well And Its Driller

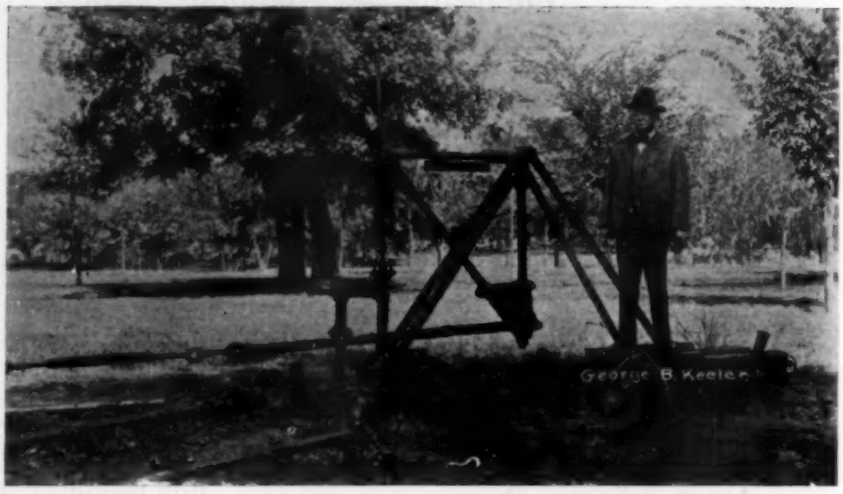
By Grady Triplett
Staff Representative

TAKE it from the keen memory of George B. Keeler—the first oil ever completed in Oklahoma was at Bartlesville. The well is still contributing two and one-half barrels daily; as part of the property of the Cudahay Oil Company, in Johnston Park, not a half mile from the business center of the city.

There was previous drilling in the old Indian Territory, but these efforts were dry holes, according to the veteran business man of Bartlesville.

"I sent 14 teams down from here to Red Fork, where they had drilled a dry hole, to get the rig to drill it," he said, in commenting on the first Oklahoma oil well. "And it took two weeks to make the trip."

The whole distance is not 150 miles. Still the roads of 1896 in the Indian Territory were not what they are today, when a slab of concrete exists between Red Fork and Bartlesville, by way of Tulsa.



Some Lease

Mr. Keeler should remember about the first oil well, for it was completed on his lease. Incidentally, it was one of the largest leases ever acquired in Oklahoma. It should have brought its owner riches. But it never did, to the extent of its possibilities, thanks to a ruling of the Department of the Interior, as well as the disposition of George B. Keeler, not to endanger the property of his neighbors.

This well was completed in April, 1897, as the signboard proclaims to all who ride past the site. But Keeler believed in the oil possibilities of the region for many years before that, and he acquired the lease in question long before the well ever was completed.

He came to the Indian Territory in 1871. Those were days when conditions were not so tame west of the Mississippi, especially in the Indian Territory.

Oil For Sure

One day, in 1875, while rounding up cattle with Jasper Exendine, Keeler rode his horse into Sand Creek to water the animal. The horse snorted and refused to drink after shoving his nostrils into the water. The riders investigated and found a thick scum on the water. They classed it as "coal oil" from the odor.

Right then Keeler began to wonder about oil possibilities of the region. At that time there were no railroads through this part of the country. There were no drilling rigs to be had, and no way to get them in or get the oil out, should it be found. So oil remained just a hope and memory.

Finally, however, the march of the drill did cross the Mississippi, and the first oil of the present Mid-Continent area was found around Neodesha, Kan.

So George B. Keeler, a merchant in a small town on the banks of the Caney River, went over to Talequah, headquarters of the Cherokee tribe, and got a lease on a district five miles square, its western boundary at the ninety-sixth meridian.

After a Name

Then he went up to Neodesha and got the Guffey & Galey concern interested in drilling. Guffey, through some personal investigations, had become convinced of oil possibilities around Bartlesville. So this concern agreed to drill. But they required the signature of Little Star, the secretary of the Cherokee tribe, on the lease held by Keeler. With $80,000 in the bank as a guarantee of drilling within 30 days, provided this signature could be secured, the affair rested while a messenger went on horse into Texas to search for Little Star. The Cherokee secretary was a rover, for this messenger followed from ranch to ranch, and fi-

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of empoyes in a place where the company has shown an interest only in things essential to the pumping of oil? Practically speaking, do the dividends justify the investment?"

Answers to the above questions are evident.

In the first place, while the Standard of California always has manifested a sincere concern for its employes' welfare, it is not running a philanthropical uplift society. It is not unreasonable to assume that it pays the organization in more ways than one thus to care for its employes or the Standard would not be doing it. All the evidence necessary to establish the value of this assumption can be gotten from a trip over the lease, a look into the quality of work turned out by the men, a casual observation of the attitude existing between the man at the bottom the ladder and the man a little higher up.

There is no getting around the fact that just as there is a difference in men, there is a difference in groups of men. Environment and the expenditure of an individual's time in a manner which is conducive to the building of a broader character or which tends to undermine that foundation which has been laid, are potent factors in determining the difference. Exactly how much it is worth to any organization to create and preserve a broader group character, a higher degree of enthusiasm in its employed personnel can not be determined. It is inestimable.

To give specific examples of how it has paid the Standard of California to go to the expense it has in making those at Northam comfortable might be indiscreet, but it is well to remember that an organization with such a policy has paid regular dividends for a long time, and indications are that it will continue to do so for a long time to come.

Results indicate a positive answer to the question: "Is it worth more than 'salve for its conscience' for a company to keep its employes satisfied?"

The NUTTALL OP-3 OIL WELL PUMP GEAR UNIT

The Nuttall Oil Well Pump Gear Unit Completely Assembled on Bed Plate and Slide Rails Ready for Attaching Motor

We can only hit a few high spots in an advertisement, but have complete information in bulletin form which we will be glad to send on request.

This is a rugged, heavy-duty, herringbone gear, single reduction unit, for pumping, cleaning, bailing, handling rods, tubing, etc.

The gears operate in oil, in an oil-tight, dust-proof case. The pinion and shaft are integral, heat-treated and the bearings are oil ring type. The gear is a steel forging, heat-treated, with extra heavy rim for flywheel effect, and the gear shaft runs on Roller Bearings.

Belt and chain adjustment, and alignment to motor shaft are greatly facilitated by slide rails and flexible coupling.

Complete information or a consulting engineer at your service for the asking.

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Nuttall

Say you saw it in The OIL WEEKLY

nally got the signature, but 60 days had elapsed.

Meanwhile Guffey & Galey had sold their Kansas interests, taken the deposit from the bank and moved to other parts. So oil had to go back to the memory and hope stage for a spell.

Packers Next

Then came the Cudahays. The packers had become interested in oil in Ohio and Indiana. A Cudahay representative came west of the Mississippi and heard of the old deal of Guffey & Galey with Keeler and associates. He came to Bartlesville, then a trading post, and took up the deal on terms similar to those of the other concern.

And that was where Keeler sent teams down to Red Fork, where drilling had been unsuccessful, to bring a rig up for the Bartlesville test. Mr. Keeler does not remember how long it took to drill the well, but he knows the rig was somewhat of a frail affair compared with present equipment, and that hole was made slowly.

"The Bartlesville sand was found at 1300 feet," Mr. Keeler recalls. "The well began flowing, but we had to shut it in, for we had no market. No railroads and no pipe lines.

Watch the Standard

"The Cudahays were not satisfied with the lease from the Cherokee tribe. They wanted the signature of the Secretary of the Interior, and finally induced me, against my own opinions, to go with them to Washington to see Ethan Allen Hitchcock. We first met his secretary, and sought an interview with the cabinet official, only to be informed that the first possible chance was a week later.

"But the next day while going through some of the departmental buildings, we saw Hitchcock sitting in his office, and apparently not busy. I induced the others to go with me, and we entered his office.

"'Keeler, you are just the man I want to see,' is what Hitchcock said. 'You've got oil in the Indian Territory.'

"Yes, we've got oil," I told him, "and we need something else."

"'Well, what?'

"We need a pipe line to get it out."

"'But, who would build a pipe line?'

"The Standard Company might be interested."

"'The Standard! Why, the Standard would steal all the oil you fellows have. If the Standard put a line in there, your oil would be taken and mixed with other oil and you never could recognize your oil.'

Somewhat Reduced

Then followed an explanation of how oil runs are handled, after which the Secretary seemed less worried over the possibility of the Standard Oil Company robbing the oil producers of their wares.

But the business of departmental approval to the lease of 25 square miles was yet to come up. And just as Keeler feared, the effort proved a boomerang, for Keeler came away from Washington with a lease on just a section, instead of 25 square miles. Hitchcock insisted that the Cherokee tribe was not then handling its own affairs.

Even a lease on a section was no small thing, but the joker in the deck was still following Keeler.

For one thing, the oil came up around the casing in the first well, and for two years thousands of barrels of it ran down the bank of the Caney River and onto the water, where it made its way oceanward.

The best part of the lease left to Mr. Keeler was occupied by the little town, whose council did not approve of town-lot drilling.

And neither did Keeler.

A Booster First

"I was more interested in building a town than in getting oil," he explained. "So we drilled only around the edge of the town, for we did not want to take chances on burning homes, on account of gas escaping from freshly completed wells. You see we had no electric lights then. Neither did we know as much about drilling wells then as now."

And that is the reason that today a well drilled in the heart of the city of Bartlesvllle would yield high initial output. The best part of the structure has never been drilled. The town has grown and taken in the wells previously drilled at its outskirts and that is the reason wells may be found pumping in the streets.

But George B. Keeler carries no ill will. He saw his town grow and he has prospered with it, for he owned extensive real estate, which occupies his time at present.

GRAVITY (DEGREES BAUME) PRINCIPAL OKLAHOMA CRUDES

Arbuckle 46.3	Cement 35.2	Healdton 30.1	Otoe 35.5
Allen 29.5	Cushing 39.8	Hewitt 33.2	Phillipsville 43.1
Alluwe & Bluff . . 31.9	Canary 31.5	Inola 36.2	Papoose 39.0
Blackwell 39.4	Cleveland 36.5	Jennings 36.7	Ponca 41.6
Big Heart 35.5	Claremore 33.7	Jenks 32.8	Pershing 35.5
Burbank 37.3	Deleware & Lena-	Kellyville 28.6	Quay 35.3
Bartlesville 30.7	pah 31.1	Lyons-Quinn . . . 37.5	Slick 30.0
Billings 41.4	Deleware Ext. . . . 33.0	Mounds 34.4	Skiatook 31.3
Bixby 30.2	Drumright 38.7	Mervine 39.8	Sperry 31.3
Bristow (north) . . 40.0	Deaner 39.6	Madill 52.1	Turley 31.3
Broken Arrow . . . 34.1	Duncan 34.4	Madrid 46.6	Tonkawa (deep) . 43.0
Beggs 38.2	Gypsy Pool 38.0	Muskogee 34.3	Wewoka 38.3
Bald Hill 41.6	Glen Pool 32.4	Maramec 36.7	Weleetka 40.0
Boynton 36.5	Garber 45.7	Newkirk 40.1	Wagner 32.1
Braman 40.7	Hominy 38.2	Nowata 33.0	Walters 31.4
Cromwell 39.0	Henryetta 36.3	Okmulgee 33.9	Yale 33.2
Comanche 33.4	Hogshooter 32.0	Osage 36.4	Youngstown 36.5
			Yeager 38.0

GRAVITY (DEGREES BAUME) PRINCIPAL KANSAS CRUDES

Augusta 34.0	Erie 30.9	New Albany 31.7	Sallyyard 37.3
Altoona 31.9	Elsmore-Noran . . 30.0	Ossawatomie . . . 27.0	Teeter 36.5
Cattlemen 37.1	Florence-Peabody 32.6	Peacock 34.1	Tyro 29.3
Chanute 29.5	Iola 19.4	Peru 30.0	Urbana 29.8
Elrod 34.1	Independence . . . 33.7	Potwin 43.5	Wayside 28.2
Elbing 33.6	Neodesha 35.5	Rantoul 29.1	Yates Center 27.5

NOTE:—It is well known that the gravity of any particular field will vary, sometimes greatly, from well to well. These figures are not given as an average but rather as the characteristic of a representative sample from each field listed.

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Good rope =
Oil in the tanks

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Say you saw it in The OIL WEEKLY

Efficient Operation of Boilers Makes for Conservation

By F. G. D. Muller,
Houston, Texas

The cost of fuel is one of the major expenditures involved in the production and handling of oil. Therefore means and ways of increasing boiler efficiency have long been subjects of vital interest to operators and pipe line men.

In the accompanying article, which concludes the discussion started in the April 16th issue of The OIL WEEKLY, Mr. Muller give an insight into the various characteristics of field boilers and points out those conditions which must be met if maximum conservation is to be enjoyed in this field practice.—The Editor.

Heating Surface and Rating

In estimating the heating surface of a boiler it is customary to take the area of the boiler in contact with the flame on one side and water on the other side. The evaporative quality of a boiler is assumed to be proportionate to the number of square feet of heating surface. This arbitrary way of rating a boiler is very misleading in this respect that two boilers with the same number of square feet of heating surface, even if they are of the same type, do not necessarily have to have the same steam raising qualities. The reason for this is that all parts of the heating surface do not possess the same efficiency. The flow of heat from one side of the heating surface to the other side depends upon the temperature difference between these two points and the rate of heat transmission increases much faster than the increase in temperature difference.

From this it follows that the heating surface of the fire box in a locomotive type boiler is much more effective than that of the tubes near the smoke box flue sheet. Taking two boilers, both having the same heating surface of say 300 square feet, the first one having 50 square feet in the fire box and 250 square feet in the tubes, and the second one having 60 square feet in the fire box and 240 square feet in the tubes, it may be expected that if all other conditions are the same, the latter boiler will prove to be a better steam generator. In other words, adding to the length of the tubes does not increase the evaporative efficiency of the boiler nearly so much as increasing the size of the fire box. This is a point well worth bearing in mind when selecting a boiler.

The boiler horsepower was the first arbitrary unit established for expressing the evaporating capacity of a steam boiler. This unit was agreed upon in 1876, after a committee of judges at the Centennial Exposition of Philadelphia had found that it took 30 pounds of steam per hour to develop one H.P. in a steam engine of that time. Therefore they recommended that the evaporation of 30 pounds of water per hour of 100 degrees F. initial temperature into steam of 70 pounds per square inch gauge pressure, was to be considered as one boiler horsepower.

The equivalent of this unit is the evaporation of 34½ pounds of water per hour of 212 degrees F. temperature into steam of atmospheric pressure having the same temperature. The boiler horsepower is therefore a unit of evaporation and has nothing in common with the mechanical horsepower, which is the equivalent of 33,000 foot pounds per minute. The amount of heating surface in an oil field boiler, which is at present deemed capable of evaporating this quantity of water is 10 square feet. This has been accepted by the A. P. I. committee on the standardization of oil field boilers as the equivalent of 1 boiler horsepower.

As mentioned at the beginning of this paragraph, the capacity of a boiler does not entirely depend upon the number of square feet of heating surface, but rather on the amount of fuel that can be burned in the furnace and the effectiveness of the heating surface. Though the steam boiler is now several centuries old, no definite unit of boiler capacity has ever been established. For practical and comparative purposes, however, the rating of a boiler by its heating surface seems at present the most practical.

Heat Losses

Following is a discussion of heat losses in connection with oil field boilers, part of which losses in a great many cases may take serious proportions with a subsequent loss of fuel and money. The different kinds of heat losses may be classified as follows:

1. Heat that is carried off through the stack by the gases of combustion, the temperature of which varies between 400 and 500 degrees F.
2. Heat lost, due to incomplete combustion of the fuel, either by the escape of fuel in the form of black smoke or as carbon monoxide.
3. Heat required to vapor formed by the chemical combination of hydrogen in the fuel with the oxygen in the air.
4. Heat lost by radiation.
5. Loss due to moisture or water in the fuel.

The first loss can be held down only to a certain minimum. In the case of natural draft the waste gases must have a temperature high enough to create this draft. The loss may be increased, however, by an excessive amount of air going through the boiler. This loss, of course, can be prevented. As shown in Fig. 9, boilers are sometimes set up in such a manner that large quantities of air can enter the fire box through holes dug into the ground or through an open fire door. Not only that these large quantities of air must be heated to stack temperatures before they leave the boiler, but they also have an injurious effect upon the joints and the tubes in the boiler, causing contraction and subsequent leakage.

The second cause of heat loss can be remedied by admitting more air or less fuel.

The third loss can not be prevented and will increase in magnitude if water or moist enumerated under loss No. 5 is already present in the fuel.

The heat loss by radiation can be a considerable one, especially where uninsulated boilers are set up in the open, subjected to rain and wind. The radiation of heat from bare pipe and uncovered surfaces has been the subject of investigation by R. H. Heilman. The detailed results of this investigation may be found in Vol. 44, Trans. A. S. M. E.

At the hand of this data the writer has prepared a chart applying to oil field boilers, giving the loss in cents, per 24 hours for 100 square feet of uncovered heat radiating boiler surface

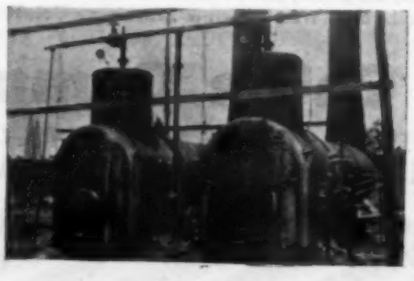
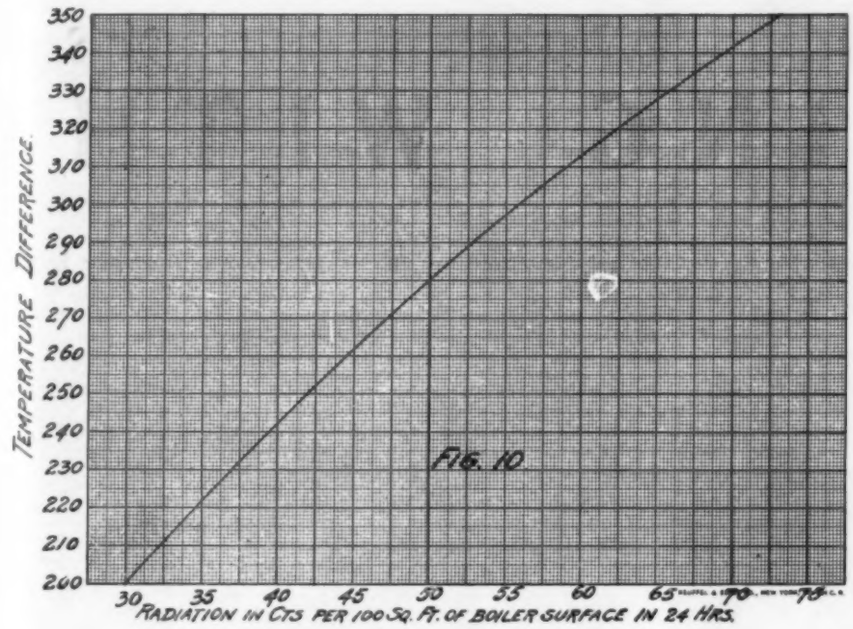


Figure 9

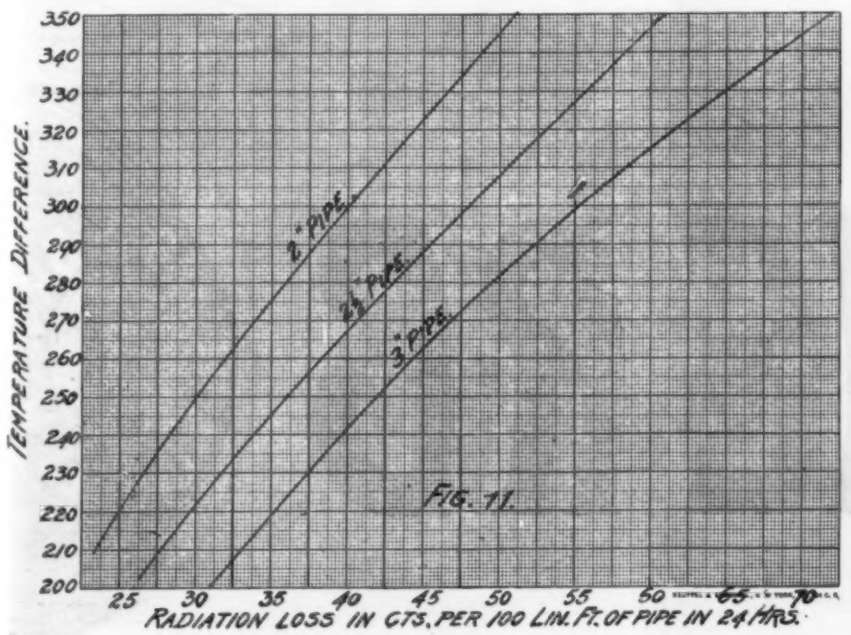


for different temperature differences between the boiler and the atmosphere. The chart is shown in Fig. 10.

Since the heat losses in bare steam lines are so closely connected to those of the boiler, a chart, Fig. 11, has been prepared, showing the heat loss in cents per 24 hours for 100 lineal feet of pipe of different sizes and for different temperature differences. The cost of the fuel in both cases has been taken at $1.00 per barrel, and the monetary loss due to radiation should be increased proportionately if the price of the fuel is higher than that assumed. The boiler efficiency has been assumed as 65 per cent.

Taking as an example an oil field boiler with a radiating surface of 300 square feet, and a bare steam line 250 feet in length, steam pressure 135 pounds per square inch, the corresponding temperature of which is 358 degrees F. and an atmospheric temperature of 58 degrees F. The temperature difference in this case would be 300 degrees F. and the heat loss per 100 square feet of boiler surface, according to the chart $.56 per 24 hours, or for the entire boiler three times 56 cents, which is $1.68. The loss for the steam line is obtained in the same manner, and from chart No. 11 we find this to be $.40 per 100 lineal feet, or $1.00 for the whole line, making the total radiation loss for both the boiler and the steam line $2.68 per 24 hours.

This may seem but a trifling expense to many, but it should be remembered that one company may have many of such heat and money wasting boilers in use, and that the $2.68 will mount to a formidable figure when multiplied by the number of installations in use and the number of days per year.



Still greater losses occur during rain or snow storms, in which the heat is carried away by the falling rain or snow.

While in charge as production engineer, which included the responsibility for all of the drilling boilers, the writer had one experience with an uncovered steam line, that may be helpful to others. This was in the East Indies, where water comes down in sheets instead of drops, during a tropical rain storm.

The boiler was set up at the foot of a hill which was 200 feet high, and the derrick located on top, as indicated in Fig. 12. A sudden downpour of rain which occurred at night, caused the steam line to condense, shutting down the drilling engine and the slush pump, which in turn caused the tools to freeze in the hole. This resulted into a mean fishing job, which later was aggravated by some more bad luck.

The driller claimed that after the rain had started, the steam pressure took a drop and was then suddenly

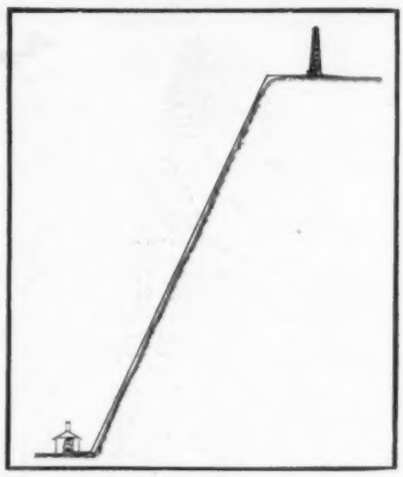


Figure 12

shut off altogether, this causing the freezing of his tools. After a while he said the steam was turned on again, but too late to do any good.

The fireman, a native, had another story to tell, and claimed that after the rain started the steam pressure took a sudden drop from 105 pounds to 86 pounds, and then remained there. He swore by his Almighty Allah that he had never turned off the steam, which was against the rules, but immediately had tried to raise the steam pressure again by increasing the fuel supply to the boiler.

Upon giving this matter some deeper thought it turned out that in this particular case both parties were right. What evidently had happened was that the sudden condensation of steam in the line had formed a 200 foot static head, balancing the 86 pound steam pressure in the boiler. This resulted into the steam supply to the rig being shut off, the pressures remaining balanced until the steam pressure was raised high enough to blow the water out of the line.

In swampy districts a bare steam

LEADING WITH

OLYMPIC
Selden
FULLER
Mack
KISEL
GRAHAM BROTHERS
DETROIT
GARFORD

MORE THAN 80

THE R-B

RELIABLE BRAUEN WINCHES
R B

Say you saw it in The OIL WEEKLY

THE LEADERS

Gotfredson
K-Z
ACME
Sterling
FORD
G&C
DIAMOND
PATRIOT
SULLIVAN

TYPES!

WINCH

Say you saw it in The OIL WEEKLY

Figure 13

line may be partly submerged in water, such as is the case with the line shown in Fig. 13, causing a loss of fuel and the condensation of steam in the line. The losses and hazards discussed above may all be eliminated by insulating the boiler and the steam line. The insulating material, of which there are many efficient types on the market, will pay for itself in a short time.

A great loss of heat occurs when cold feed water is pumped into the boiler, instead of being previously heated to or near the temperature of the water in the boiler. The feed water furnished to the boiler must be raised from its normal temperature to that of the steam before evaporation can commence. If the feed water is not heated before it enters into the boiler, it has to be done inside at the expense of a certain amount of fuel that otherwise would have been used in the generation of steam. From this it follows that all heat that can be imparted to the feed water before it enters the boiler is just so much saved, not only in fuel, but also in boiler capacity. The saving of fuel due to the heating of the feed water is usually expressed by the following formula:

$$P=100\frac{h-h_1}{H-h_1}$$

where:

P=Fuel saved in per cent.

H=Total heat above 32 degrees F. per pound of steam at boiler pressure.

h=Heat contained in one pound of water after leaving the feedwater heater.

h_1=Heat contained in one pound of water before entering the feedwater heater.

To illustrate the use of the above formulas, suppose an oil field boiler carrying a steam pressure of 135 pounds is using 25 barrels of fuel oil per day. The heat contained in one pound of steam of this pressure 1193 B.T.U. The temperature of the feed water as it comes out of the field line is 58 degrees F., one pound of which contains 26 B.T.U. above 32 degrees F. If this water is heated to 200 degrees F. the heat content of which is 168 B.T.U. above 32 degrees F., the saving would be:

$$100x\frac{168-26}{1193-26}=12\%$$

The saving per day in this particular case, with fuel at $1.00 per barrel, would be 12 per cent of $25.00 or $3.00.

This proves that the installation of a feedwater heater is a good investment and will pay for itself in a short time, no matter whether this heater is built for this special purpose or just a homemade affair consisting of a large pipe through which the exhaust steam from the engine and pumps is discharged with a few coils of smaller pipe on the inside, through which the feed water is pumped at boiler pressure.

Not only that a feedwater heater is conducive to greater economy, but it will prevent strains in the joints of the boiler and the tubes due to temperature differences, and there will be less interference with the circulation of the water inside of the boiler.

Another source of heat loss may be caused by the formation of scale on the heating surfaces. Most of the water that is used for boiler feed purposes contains chemicals or solids in solution or suspension. Under boiler conditions these impurities form a solid coating of scale on the heating surfaces. This scale after once formed is hard to remove, and being a bad conductor of heat, causes the heat of combustion to go out through the stack instead of being transferred to the water.

It is therefore apparent that these scale-forming impurities should be removed before entering the boiler, which can be accomplished by applying one of the following purification methods:

1. Settlement.
2. Chemicals.
3. Filtration.
4. Heat.

Which one of these four processes to use depends altogether on the condition of the feed water in question. This much is sure, that purification saves fuel, reduces the cost of cleaning and adds materially to the life of the boiler. It is furthermore much better to treat the water before it enters the boiler than to introduce the various boiler compounds into the boiler. Aside from forming scale, the impurities may also be the cause of foaming or priming. Moisture in the steam is often contributed to these two causes, though it may also be due to condensation in the steam line. Even with a suitable covering, there will be a certain amount of radiation from the line, which has its equivalent condensation within the line.

The presence of water in the steam is not only wasteful in so far as the lost heat is concerned, but may cause damage to the engine, set up water hammer in the steam lines and interferes with proper cylinder lubrication. The percentage by weight of steam in a mixture of steam and water is called the quality of the steam. A simple way of ascertaining the quality of the steam as delivered to the drilling rig is by placing a branch in the steam line near the derrick with a pipe leading from this branch to a barrel, preferably made of wood, which is nonconductive. The barrel is partly filled with water and placed upon a scale as indicated in Fig. 14. Through the branch pipe a representative sample of the steam is admitted, escaping near the bottom of the barrel and below the water surface. The steam will condense while trying to bubble through the water, increasing both the temperature and the volume of the water in the barrel. Knowing the pressure of the steam and by observing both the increase in temperature and weight of the water barrel, the quality of the steam may be obtained from the following formula:

$$Q=\frac{x}{w}=\frac{1}{l}\left[\frac{W}{w}(t_2-t_1)-(t-t_2)\right]$$

W=original weight of the water in the barrel.

w=weight of steam and water that flow into the cold water.

l=latent heat of steam at the observed pressure.

t=temperature of the steam at observed pressure.

t_1=initial temperature of the water.

t_2=final temperature of the water.

x=is the portion of w that is dry steam.

Q=quality of the steam.

By repeating this test somewhere near the boiler, it may be ascertained whether the moisture in the steam is due to priming or to condensation and corrective measures can be taken to overcome the trouble.

For reasons stated above, water should be kept out of the engine and the pumps by all means, and this can be accomplished.

1. By employing a steam separator.

2. By using super-heated steam.

The separator and steam trap, although seldom used on a drilling rig,

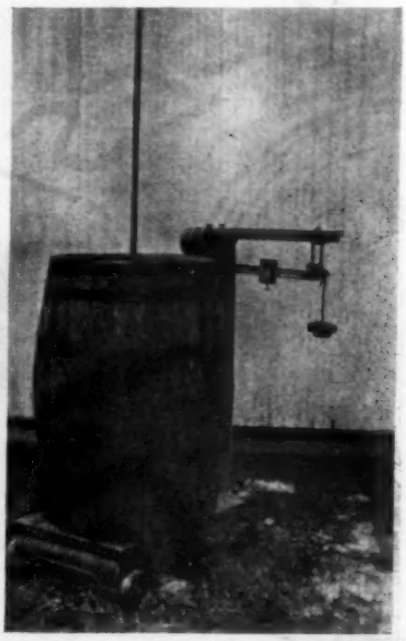


Figure 14

Getting the Full Price
for crude oil puts the big dividends across. They cannot be achieved in any other way.
It is no difficult, hard or expensive task to so condition "cut" oil that you may obtain the full market price; in fact it is absolute waste—a waste of earned profits—not to. The first step is the "Oil Doctor's" test of your crude and his report of your requirements.
"Petroco" is THE Electrical Method of handling "cut" oil problems. It is the most effective, the most economical, the most direct, the most simple, and the most desirable from all standpoints, of all processes or methods. Data and references of installations near you, establishing this beyond any question, will be supplied on request.
"The Electrical Process for Dehydrating Crude Oil Emulsions," and which is exclusively "Petreco," will be sent any producing oil company or executive. It is well worth a careful perusal.
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308 Union Oil Building,
LOS ANGELES, CALIFORNIA
336 Humble Building, Houston, Texas.

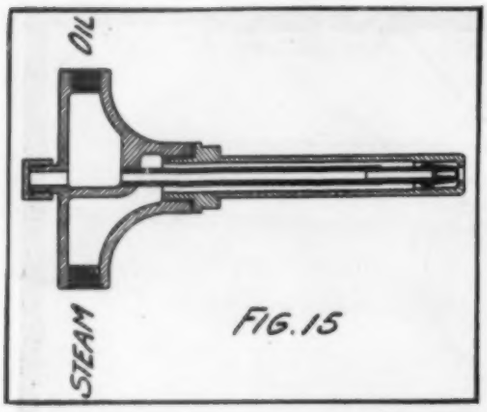


FIG. 15

are well known to the industry, and need no further description. The main advantages of using super-heated steam is the general absence of water in the lines. In the case of saturated steam the amount of heat radiated equals a same amount of condensation. From this it is obvious that the least amount of radiation will cause water to precipitate in the steam line with the above detrimental effect. With super-heated steam a certain amount of heat can be radiated without any precipitation taking place, the steam reaching the engine or pump in a dry state. That super-heating the steam takes a certain amount of heat is self-evident, and unless some waste heat source is used no gain in economy is to be expected over saturated steam using a separator and steam-trap near the derrick. The sole advantage of using super-heated steam in the field would be the lesser water consumption of the boiler.

Oil Fuel and Oil Burning

The time since the beginning of the oil industry is marked by hundreds of inventions for oil and gas burners. Natural gas, produced with the oil, usually plays out when a field grows older and oil has to be resorted to for steam-raising purposes.

The unlimited supplies of oil available in the field at a purely nominal cost have tended to retard the scientific development of oil burners, rather than to encourage its careful study. The price trend of oil and also the fact that the cracking process has made fuel oil a more valuable by-product, has developed oil burners of greater efficiency.

The history of the oil burner goes back as far as 1839, when an Englishman by the name of Cruikshank proposed to inject coal tar among a lot of hollow clay balls which previously were brought to an incandescent heat to aid in the evaporation and combustion of the fuel. Russian inventors are credited with the invention of an oil burner, using air to atomize the oil. The invention of the steam atomizing burner is credited to an American inventor named Hill, who, in 1863, took out a patent in this country, followed by F. Cook, who, in 1868, conceived the idea of using the centrifugal force as atomizing agent. The widespread use of the mechanical oil burner, whereby the oil is atomized by forcing it through a small orifice under pressure, was inaugurated by the British admiralty for use on shipboard.

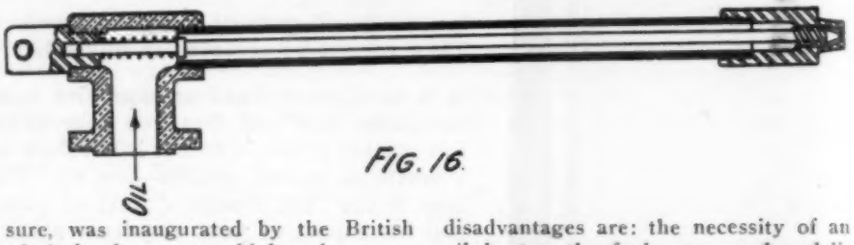


FIG. 16

Around the oil fields the steam atomizing burner was, and still is, the most widely used. For effectiveness as an atomizer the steam burner has no rival. In tests made by Mr. Peabody, on Babcock and Wilcox boilers, efficiencies of 82 per cent were obtained, with a steam consumption of the burners of less than 2½ per cent of the output of the boilers, leaving a net efficiency of 80 per cent.

A good steam burner should not use over .35 pounds of steam per pound of oil burned in the furnace.

Broadly speaking, present day oil burners may be classed as follows:

1. Air or steam atomizing burners making a flat or round flame and with either internal or external mixing.

2. Mechanical burners using a pressure jet or centrifugal force for atomization.

Fig. 15 and Fig. 16 are representative samples of the two kinds of burners.

There is quite a controversy about the relative merits and efficiencies of steam and mechanical burners. The advantages of the steam jet burner are: simple construction, no pumping or heating of the oil, low initial cost, adaptable to either a round or a flat flame. The disadvantages are: the admission of steam into the combustion chamber, the consumption of steam for atomization, which consumption in oil field boilers may run from 5 to 12 per cent of the steam generated in the boiler.

The advantages of the pressure jet burner are: steam required for heating the oil and running the fuel pump amounts to only 1 per cent of the steam generated by the boiler. It does not produce deleterious products of combustion, affords high furnace temperatures and is silent in operation. The disadvantages are: the necessity of an oil heater, the fuel pump and a delicate oil burner. The real advantage of the mechanical burner over the steam atomizer lies in the saving of boiler water. The mechanical burner is therefore more adapted for marine work and the steam atomizer quite satisfactory for use in and around the oil country. The ideal furnace arrangement for oil as well as gas burning is undoubtedly that of the cylindrical type such as used in Lancashire, Galloway or marine boilers. In these boilers an oil jet of conical form is made to impinge upon the refractory lining with which the furnace is lined, entirely filling the combustion space. Conditions for air admission and intimate mixing with the fuel all around the oil jet are also ideal. With this and also with the idea of accessibility in mind, horizontal return tubular boilers are becoming more widely used in the oil country. Fig. 17 shows the Taylor boiler, which is manufactured by the Coatesville Boiler Works, and this boiler is especially adapted for use in permanent installations, such as oil treating, gasoline plants, com-

(Continued on page 84)

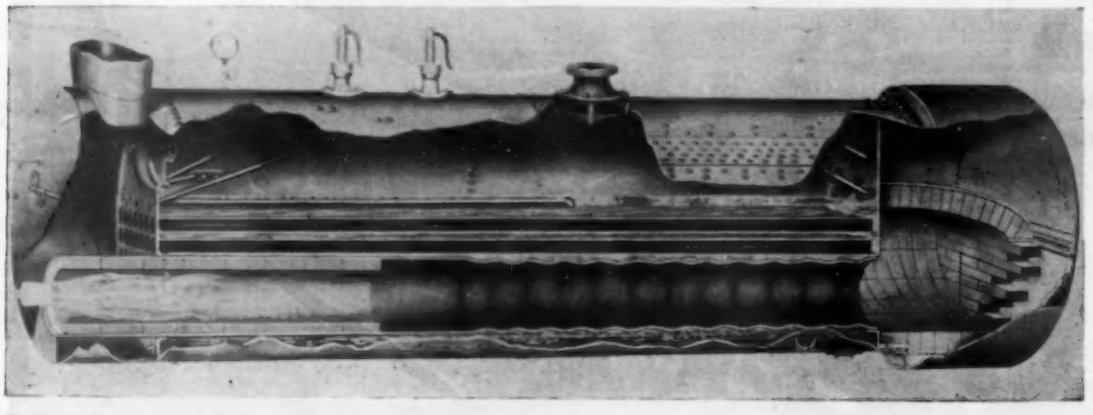
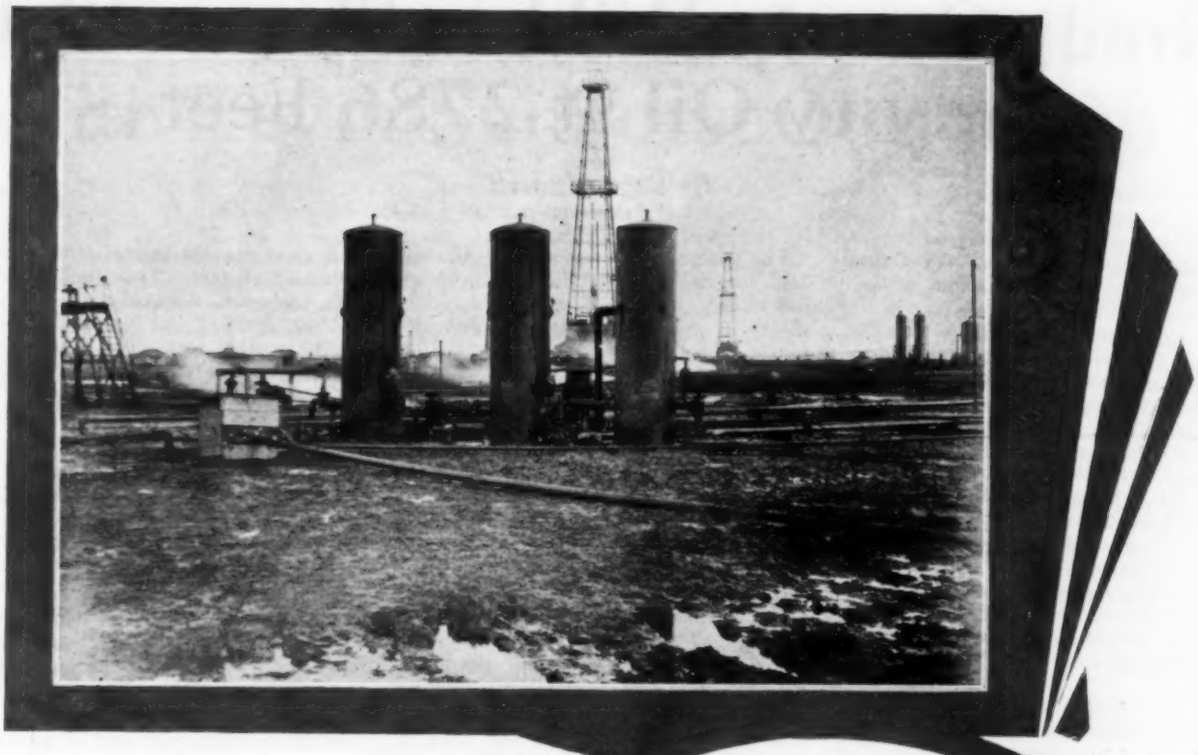


Figure 17



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Say you saw it in The OIL WEEKLY

Grady County Wildcat Shows 39.4 Gravity Oil at 2786 Feet

By Roye Munsell
Staff Representative

Tulsa, Okla.—The Carter Oil Company has apparently opened up a new producing area near Bailey, Oklahoma, in the southeastern part of Grady County.

Their Horton No. 1 test in the northeast corner of the southwest of the southeast 8-3n-5w found sand at 2,600 to 2,615 feet. With the sand scarcely more than scratched the well began flowing and spouting oil half way up the derrick. The oil tested 39.4 degrees Baume.

At this writing, there is several hundred feet of open hole and work is being rushed to run the casing. The new well is one and one-quarter miles south of the Carter Oil Company Hawkins 1, 5-3-5w, which is making 20 barrels of 42 degrees Be. oil daily from sand found at 2786 feet.

One and a half miles northwest, the Carter Oil Company has a gas well in 16-3-5w at a depth of 1030 feet. The Marland Oil Company holds a 50 per cent interest in the acreage on which the new well is located.

From present indications the only Mid-Continent field having the prospects of developing into any consequential size is the Wewoka where the Wilcox sand was recently discovered by the Magnolia Petroleum Company with its Skinner 1, NW 5-7-8.

Although the dicovery well apparently failed during the past week because of water encroachment, new wells to be brought in can be expected to boost deep sand production there materially.

Coincident with the failure of the deep sand discovery well, the seventh deep sand well was brought in for 220 barrels an hour initial. A few hours after, and when three feet in the big pay found at 4161 feet, it was producing at the rate of 256 barrels an hour.

The well is owned by the Magnolia Petroleum Company and is their third well on the Skinner lease, being Skinner 3, C SW NW NW 5-7-8.

By the latest 24-hour gauge the new Magnolia well made 4984 barrels. Other deep sand wells produced an additional 20,414 barrels.

The prospective eighth producer, the Independent Oil & Gas Company, Simon 1, NW NW SW 5-7-8, is expected in as this is being written. If that test proves a producer the Wilcox pool will be extended two locations to the southeast.

An additional deep test has been recently spudded in by the Gilcrease Oil Company on the Ferguson farm in the NE NW SW 5-7-8.

Garber has contributed several more shallow sand producers with rather high initial productions. The latest, the Roxana Petroleum Corporation, Schroeder 5, NW SW 18-22-3w, had an initial flow of 200 barrels from the Hoover sand.

The campaign to redrill the Garber field for shallower production is on at full swing. Each week sees the location of ten or more new tests with that objective.

A new shallow sand with some possibilities has been found in the Braman area. The Comar Oil Company in deepening its Bechtel No 3 well, SW 5-28-1w, the South Braman field, from the Stalnaker at 2300 feet to the Wilcox at 4000 feet picked up the new 2800-foot sand.

While not commercially productive at that particular location it might be expected that productive wells will be completed at this horizon in other parts of the field.

Six miles east in the old Blackwell field the 2800-foot sand has been found uniformly productive and long lived. Several wells are still producing after a lapse of some eight years.

The Reiter-Foster and Elaine Oil Company's wildcat in the center of the southeast 33-22-2w, Noble County, which looked like a 150 barrel well when on top of sand found at 4673 feet has proven a disappointment.

When deepened it failed to increase its show and at 4683 feet passed completely through the sand body. At 4683-84 feet it found black shale and at 4684 a lime formation.

The wildcat well of the Sinclair Oil & Gas Company in the NW 17-9-7, Seminole County, three miles northeast of the new Hunton lime producer of the Indian Territory Illuminating Oil Company in 24-9-6, found sand at 2750 to 2786 feet for gas and a little oil and water.

The Indian Territory Illuminating Oil Company Hunton producer is holding up to around 1100 barrels daily production.

Kansas

Lyon County, the scene of much drilling activity added a 1100 barrel well during the past week. The new well was by McCullough and associates on the Bradfield farm in the northwest of the northeast of the northwest 25-21-10, one quarter mile south of the discovery well.

The production is coming from the second break in the lime at 2592-96 feet. The dicovery well is bottomed at 2597 feet.

Greenwood County, Kansas' banner producing area is keeping up a fast pace of oil production. Several new wells totalling 2000 barrels initial output were added there during the past week.

In the new Ateyo pool the Kansan Oil Company completed its Ateyo 2, SW NW NE 6-22-10, for 400 barrels from sand found at 2175 to 2292 feet.

In the Harris pool, Davis and Associates' DeMalorie 14, NW SE NE 12-22-10 is good for 300 barrels from sand at 2001 to 2054 feet. The Phillips Petroleum Company, Warrenburg 6, NE SW 12-22-10, is doing 100 barrels from sand at 2080 to 2127 feet. The White Eagle, Austin 2, SE NW 12-22-10, is good for 240 barrels from sand found at 2071 to 2142 feet.

To the south in the Pixlee pool, the Mid-Kansas Oil & Gas Company completed its third Pixlee well in the southeast of the northwest of the northwest for 150 barrels at 2306-2330 feet.

With the exception of the Kingman County district, other Kansas areas continued quiet. The Rainbow Bend is without a single drilling well. The field is already pretty well drilled up but possibly 4 more tests will be made there during the present season.

In the new Kingman area of west Kansas several tests are reaching interesting depths. Two should find the Fleeger sand within thirty days and a third, the McKnabb & Best, Richardson 1, 4-30-6, now below 4040 feet, should be in within the week.

Probably a sum amounting to four million dollars is being spent in that district, all on the discovery of a 100-barrel well. There are now 35 tests either drilling or getting ready to drill in the district. They are distributed as follows: Kingman County 14, Reno County 10, Barber County 4, Harper County 6, and Pratt County 1.

Before Fleeger made the strike in 16-27-7, Kingman County, that district held little interest to oil operators. The discovery of a deep pay in Western Kansas was of tremendous significance, however, and immediately recognized by oil men as such.

At present all the close in and outlying acreage is under lease. The new district is, to all the world, a potential Golconda.

Humphreys Abandons Cherokee County Test

Jacksonville, Texas.—Humphreys-Colliton Company's wildcat test on the Mrs. P. O. Clapp farm, which is located 14 miles east of Jacksonville, Cherokee County, has been abandoned as a junked hole at 3373 feet. This test was drilled near a deep hole made some years ago by J. A. Colliton and others of California that was also junked after bailing considerable high gravity oil from the hole at the 3400-3600 foot level, with a total depth of 4300 feet. The derrick is being skidded to make another test, while the Humphreys-Colliton Company are drilling a second test on the Ousley farm, J. Culp survey.

Rocky Mountain Area Shows Slump With Kevin-Sunburst Output Off

Casper, Wyo.—Due to the sharp decrease in Kevin-Sunburst pipe line runs, daily average runs from all the fields in the Rocky Mountains decreased more than 2000 barrels when compared with the runs for the preceding week. Runs from the other fields did not fluctuate enough to affect the general list. The Kevin-Sunburst situation is far from cleared up and even greater declines may be expected if the storage situation is not improved. Production from the Salt Creek field remained steady.

The Midwest Refining Company has reduced the price of Hamilton Dome oil to 73 cents per barrel at the well. This is the lowest price at which this crude has sold for two or three years. Two months ago the same crude was commanding $1.85 per barrel. Local conditions at the Greybull Refinery were largely responsible for the drastic cut in price.

The British Associated Oil Company, drilling in the old Warm Springs (Wyoming) field, has greatly increased the production in one of its wells by drilling it deeper. At slightly more than 1000 feet, the well produced about 200 barrels daily. Deeper drilling caused the production to increase from the lower Embar formation.

To Drill Deep Test

The Producers and Refiners Corporation has announced that it will drill a deep test in the Hudson (Wyoming) field. This field is the oldest in the state and has never produced from any but shallow sands. The oil is heavy and black and if production is found in the lower sands it will probably be of a low gravity. The wells in this field are small but produce steadily for years.

The Lance Creek field, recently discussed by the Bureau of Mines, will be the scene of considerable activity during the spring and summer months. The Buck Creek Oil Company and the Ohio Interests are expected to repair old wells and drill new ones in the field. The water encroachment problem has been a serious one and steps are being taken to overcome it. Water is threatening from below and above the producing sand.

The completion of the test on the Burris Dome, a structure lying just north of the Salt Creek field, will be made as the result of arrangements completed between the Interstate Refining Company and the Montana Giant Petroleum Company. The latter will carry the test down from 3210 feet. Very little signs of oil were found in the upper formations.

Eight wells were completed in the Salt Creek field during the past week by the Midwest Refining Company and its affiliated interests. Seven of these wells were first and second sand wells, while one was completed in the Lakota sand. Only the Lakota sand well flowed. All others were completed as pumpers. On an average, not more than one well in eight now completed in the Salt Creek field flows of its own accord, the Lakota sand wells excepted. About nine in ten of these wells have flowed.

Ask for Suggestions

A large number of important operating companies in Montana have asked for suggestions from the Bureau of Mines relative to the conservation of oil and gas in the state. They have appealed to J. W. Steele, supervisor of the U. S. Geological Survey for the Casper district. Like the early oil days of Wyoming, the situation in Montana is not satisfactory. There has been somewhat of a scramble for production, particularly in the Kevin-Sunburst field, and conservation of both oil and gas has been given little consideration by the average operators. The Montana operators feel that they can profit by the lessons learned by experience in Wyoming fields.

After a short lull in the Kevin-Sunburst field, the Rice-Fulton interests have completed a 3000 barrel well on the northwest quarter of section 31-35-1. This is the first large well to be completed for several weeks. The total depth of the well was 1465 feet. This part of the field is noted for the number of large producers it has yielded. Offset wells have usually started with large production.

Due to the acute shortage of water in the Kevin-Sunburst field, operators are considering electricity for use in all operations in the field. Water of any quality is very scarce, and when it is obtainable it usually contains either alkalies or sulphur. The water pumped from the wells in the field contains large deposits of sulphur, while the surface water is strong with alkalies. The largest power company in the state operates a power line comparatively near the field. If enough interest is shown, the line probably would be extended to the field. The productive sands in the field are shallow, and some of the operators are content to use steam because of this fact.

Control Bought

The controlling interest of the Regal Consolidated Oil Company has been purchased by Dr. Boris Aronow and associates, who will continue to operate the properties of the former in the Kevin-Sunburst field. The Regal interests had a settled production in the field of less than 200 barrels daily. The potential production of the leases bought is considered much larger. The Aronow interests will build a small pipe line from the field to Kevin. The crude will be shipped to nearby refineries.

The Caine interests, of which Dr. Arthur Caine is the active head, has completed a flowing well in the Kevin-Sunburst field, section 32-35-1, at a depth of 1520 feet. The well was drilled in what was regarded as a territory of small production. The test was an unusual one and flowed over the top of the derrick, taking the operators entirely by surprise. The initial production of the well was estimated at 450 barrels. This completion raises the value of nearby leases greatly.

An important extension of the Kevin-Sunburst field seems to have been made by Maclay Brothers, who have found commercial production in the Collins-Develin well, northwest quarter of section 33-35-1. The well is located slightly more than half-mile east of production and is undoubtedly an extension rather than a new pool. Apparently the structure rises slightly at a point near the well. Oil rose in the casing immediately after the sand was touched. Although the well is not expected to flow, it will make a large pumper, it is thought.

Moffat Dome Well Expected

The Texas Production Company stands an excellent chance of getting a producer on the extreme southeastern flank of the Moffat Dome, according to late advices from the field. The test, which was started on the northwest quarter of section 15-4-91, touched the Frontier sand only a few feet deeper than the discovery well. This fact indicates that the structure extends farther to the south and east than formerly thought. The mapping of the structure has been changed considerably since the first well was completed two years ago. Wells drilled in what was supposed to be the northern limits of the field failed to find production. On the contrary, tests toward the southern limits of the field were surprising in the opposite respect, having found good production near what was supposed to have been the water line. The center of the structure seems to lie slightly south from the original markings.

The construction of a refinery near Craig, Colorado, is being considered by the Texas Production Company. Such a venture would utilize all the crude from the company's Moffat Field as well as the oil produced from several nearby fields. The greater part of the crude is now shipped to Casper. The erection of a refinery would eliminate a double freight haul for products sent back to Colorado and adjacent states.

Late Associated Press dispatches from Utah state that the Midwest Refining Company's Moab discovery well is flowing at the rate of 60 barrels per hour. Previously, it was reported that the cement in the well had failed to hold. As the well is located so far from direct communications, it is very difficult to get an accurate report on operations. It is a settled fact, however, that the well is bona fide. It is thought that the well flowed occasionally while the cement was being dumped, or immediately before.

Boling to Front Again As Well Makes 6000 Barrels

By Wallace Davis
Staff Representative

Houston, Texas.—Boling field came back with a sudden flash during the past week that renewed interest among companies holding acreage in this section to the extent of making six new locations and resuming operations on some half dozen tests, which have temporarily been shut down. A total of 12,550 barrels combined initial production came from four completions around the center of activity at Boling, representing four companies.

Texas Company Gets Big Well

The Texas Company's Taylor No. 7 brought the lagging activity to life April 15 when it was completed for 6000 initial, 32 Baume gravity, from a 3875 foot sand, extending the productive area 400 feet to the southwest and opening the pay 543 feet deeper than had formerly been found. Oxford Oil Company's Floyd No. 2 followed the new well of The Texas Company by a day, opening with an initial of 65 barrels an hour and increasing to 85 barrels an hour within a short time. The depth of this well was 2957 feet. Sinclair made a 50 barrel well of its No. 3 Taylor, producing by heads. The location is 200 feet south of Sun's No. 1 well, which went dead late last week from a small production. Humble Oil and Refining Company added a 4500 barrel well to the field with the completion of its Hawes 5, an offset to Oxford's Floyd 2, at slightly below 3100 feet. The gravity tested 32 at 60 degrees.

Deepest Test at Boling

Vacuum Oil Company had reached a sand with oil indications at a 4357 foot level late last week, and was reaming down to set above the sand. This is the deepest hole drilled at Boling by more than 300 feet. Oxford's No. 3 Floyd picked up an oil sand at 3520 feet at a location 225 feet to the southwest of the No. 2 and was making preparations to test the sand. The Sun Company started bailing its Taylor 4 Monday at 3688 feet and had liner set in the No. 2 at 2869 feet.

Humble made location for No. 7 Hawes 50 feet from the southeast corner of the Oxford lease in the E. Hawes 124-acre tract and the No. 8 Hawes offsetting the No. 3 Hawes. The Texas Company, following completion of the No. 7 Taylor, made location for Taylor No. 9 at a point 163 feet south and 321 feet east of the discovery well on the S. T. Taylor 400-acre farm. Locations were also made by The Texas Company for No. 1 Felder on the Felder-Weems 100 acre tract to the northeast of production more than a mile, and the Farmer No. 1, which will be drilled about 2¾ miles in the same direction from the field. Location is northeast of the San Bernard River in Fort Bend County, near the Sun's Farmer No. 1, which was also located last week in a 100-acre lease held by the Sun in the Scott Lee League.

Tuesday Boling production was flowing at its peak of more than 10,000 barrels. At the time of Humble's 4500-barrel completion The Texas Company's 6000 barrel producer had dropped to 4100 barrels and Oxford's No. 2 was flowing 1550 barrels. Prior to the strong completions of this past week the daily average had dropped to below 2000 barrels with five wells.

Production in the Gulf Coast territory is up in general this week, showing an increase of more than 6000 barrels over the week ending April 10. The rise comes as a result of Yount-Lee Oil Company's two deep sand producers at Spindletop, two good wells in the Hull field, and 1500-barrel well at Pierce Junction of the Gulf, aside from Boling's comeback.

Activity for Spindletop

Immediate development of the deep sands at Spindletop is indicated by two locations made by Yount-Lee during the week, one well to offset each of its new deep sand completions. Location was made for the Gladys City No. 4, 300 feet southeast of the No. 3, which 10 days ago opened production to the northwest of the Spindletop dome. The No. 5 McFadden will be drilled 300 feet west of the No. 4, on the south side of the dome.

Vacuum Oil added another producer to Lockport field in the Louisiana Gulf Coast early Tuesday, bringing in the Freiberg & Wolfe No. 2 for 4500 barrels of fluid, 40 per cent oil. The gravity tested 24.3 Baume. The well is a workover, having completed early in March at 3121 feet for 800 barrels. It was ordered drilled deeper after rapidly declining, and completed this week at a 3398-foot level. It opens new territory in the field, being at a point about 2000 feet southeast of the main production. Five other Vacuum wells picked up sands at Lockport during the past week and are being tested.

May Have to Junk Well

Roxana Petroleum Corporation is offering little promise of finding pay in its present test off the Clemens dome in Brazoria County with a fishing job in the Clemens No. 1 wildcat that looks like the test will have to be junked. A depth of 4518 feet has been reached at this location of 4507 feet southwest of the Kropp No. 1, recently abandoned at 578 feet after picking up oil of 23 gravity but failing to make a producer. The Allen No. 2, off the Allen dome, five miles away, is rigging up with steam equipment to go deeper at 3518 feet. This is the first deep test at this dome after the No. 1 encountered cap rock on top of the dome at 822 feet last fall.

The Texas Company gave up its Warren Nos. 6 and 7 wildcats off the Hockley dome in northwestern Harris County late last week after carrying the No. 6 to 3575 feet and the No. 7 to 1602 feet without a show. After drilling seven unsuccessful tests on the Warren lease the company has no doubt discontinued operations at this point. The Hockley dome has been one of the most exploited salt domes in the Gulf Coast for the value received.

Cole Field Gasser Now Making 450 Barrels Oil

Laredo, Texas.—Well No. 17 of the Cole Petroleum Company, which came in about three weeks ago a big gasser and then began to flow oil at the rate of 5000 barrels daily and fell back into a gasser, has again become an oil well.

The well was placed on a quarter-inch choker and was making 450 barrels of pipe line oil daily early this week.

The well is a direct offset to the Cintex discovery well of the oil belt of the Cole field. It is almost due south about 400 feet.

The Houston Oil Company Nos. 2 and 3 wells, in the Cole field, are making oil and gas from the same formation as the other wells in the field. They are located on the south half of block 16, section 10, Arispe Grant, in Duval County. They are southeast of the Cintex discovery well, which is in the same block.

The Houston Oil Company's No. 4, 600 feet southeast of the No. 1, will be spudded this week.

Alexander Deussen, vice-president of the Marland Oil Company of Texas, Houston headquarters, has returned to his office after a trip to Fort Worth and other North Texas points.

Shots Bring in Record Sized Wells For Panhandle This Week

Amarillo, Texas.—Two record sized oil producers were completed in Hutchinson County during the past week with the aid of unusually large shots of nitro in the sandy-lime pay. The Pattison-Lenix Oil Company's Smith 1, section 11, is credited with having flowed 270 barrels during the first 30 minutes and 5800 barrels (estimated) during the first 24 hours after shot of 505 quarts in sandy-lime pay at 2910-95 feet, total depth 3005 feet. The Skiatex Oil Company's (was J. R. Phillips) W. L. Kinglsand 1, section 6, which was completed seven months ago swabbing and flowing 300 barrels daily at 2799-2849 feet, is credited with having flowed 2100 barrels during the first 16 hours after being deepened and shot with 567 quarts of nitro at 2826-60 feet.

The performance of these two wells indicates that more favorable production results can be had by using extra heavy charges of explosives. The Pattison-Lenix Oil Company's well was rated at 50 barrels daily prior to being shot. The outcome of these two wells is being watched with interest, since the use of heavy charges of nitro may be the means of multiplying the current output of a number of small wells in the field.

The big flush production contributed by these two wells had to be diverted to earthen storage, as the three pipe line systems serving the field were unable to handle the production of the field prior to their completion. The Pattison-Lenix Oil Company's had settled to about 100 barrels hourly when the field representative of the Railroad Commission ordered the well shut in until steel storage, or pipe line connections could be had. Earthen storage has been used throughout the field lately by operators in handling their current production, as cold weather seriously reduced the carrying capacity of the three lines taking oil, due to the oil congealing. Gulf and Marland are rusing work on their 8-inch lines leading from the field to tank farms and tank car loading racks at Panhandle, but no relief can be expected from these carriers for several weeks.

Golding-Phillips et al's J .T. Hodges 1, located some distance from oil production and north of the Canadian River in survey 1-A, J. C. Patton grantee, is drilling sandy-lime pay at 2735 feet, with 1250 feet oil in hole. This well encountered nine million cubic feet of gas at 2670 feet, being a heavier volume of gas than is usually found north of the river. The top of the lime was logged at 1918 feet, with a surface elevation of 2838 feet. J. B. Dunnigan et al's J. A. Whittenburg 1, section 13, flowed 70 barrels during the first half hour after shot of 300 quarts at 2938-3026 feet.

The Texas Company's wildcat test on the E. Cooper land, section 6, I. & G. N. survey, block 9, and in the southeast corner of Hutchinson County, is credited with having encountered 500 feet of oil in hole from lime pay at 3330-40 feet, but went into water at 3360 feet, and was standing with a hole full of water at 3400 feet. This test has a surface elevation of 3178 feet.

Shallow Field for Young County

Wichita Falls, Texas.—A shallow oil producing area was uncovered early this week in the northeast part of Young County when the Howard Petroleum Company's wildcat test on the G. P. Stewart land pumped 40 barrels during the first five hour gauge from sand at 551-558 feet. This well is located in the southeast of lot No. 8, Young County School Land survey, and about five miles southeast of the Prideaux shallow pool in Archer County, which is the nearest production.

The favorable results obtained in recent months from the development of the 650-foot sand pay in the Prideaux pool has led to considerable exploration work taking place in southeast Archer and northeast Young counties. The Howard Petroleum Company is well fortified with acreage around its wildcat strike. The Texas Company's Prideaux 3 pumped 30 barrels initial from sand at 646-656 feet, and Kell and Kruger's Prideaux 1 made 15 barrels at 696-704 feet. The latter two wells are in the Prideaux pool, Archer County.

The Sun Oil Company's H. E. Brown 1 widened the productive limits of the northwest extension of the Ragle district in Archer County during the past week swabbing 450 barrels initial from regular pay at 1152-55 feet. This well is the farthest northwest in the field. This section of the Ragle district is proving narrow, since Texhoma's Jeske 1 failed to make a producer after drilling to 1227 feet while The Texas Company's B. R. Jeske 6 did likewise after drilling to 1232 feet, both being on opposite sides of the producing structure. Gulf's Jeske 2 swabbed 137 barrels during the first 18 hours at 1172 feet. J. S. Cosden & Consolidated Oil Company's S. E. Oldham 5-A, located on the north end of the Oldham field, Archer County, swabbed 750 barrels initial from sand at 1343-60 feet.

In the Noble-Dyson field, Wilbarger County, the Phillips Petroleum Company's (was Landreth) Waggoner 2-QQ, located on the south line of section 47, swabbed 300 barrels initial from broken sand at 1845-57 and 1884-95 feet, while in the same section of the field the Waggoner Refining Company's Waggoner 1-A swabbed and flowed 600 barrels from sand at 1898-1921 feet.

R. D. Clancy & Leon English of Dallas have started rigging up on the first of a trio of wildcats to be drilled on geologized blocks in Dickens County. The first test will be drilled to a contract depth of 3500 feet, and is located on the Jones ranch, being 300 feet from the southeast corner of the northwest quarter of section 311, H. & G. N. Ry. survey, block 1, about five and one-half miles northeast of the town of Spur. H. A. Crary is in charge of operations, and the test will be drilled with a Franklin engine and cable tools.

California Operators to Drill Restricted Area

Huntington Beach, Calif.—On April 29, more than 25 operators are scheduled to invade the restricted district of Huntington Beach for the purpose of projecting a drilling campaign.

This action has been made possible by the outcome of a recent election, one of the main issues of which was whether the district should be thrown open for development. Led by King C. Gillette, prominent Los Angeles Basin operator, those in favor of throwing open the district carried the election by a vote of three to one.

A common agreement has been reached among those who will take prominent parts in the development to the effect that only one well will be drilled to every four lots. In this manner it is hoped the operators will be able to avoid an economic fizzle such as that attendant to the development of the Los Cerritos area of Long Beach. However, there is a movement on foot to make a town lot proposition of Huntington Beach, and if those engineering this movement are successful, it is felt most of the profit from the development will go to the landowner and not to the operator.

Douglas G. Gall, representative of of the Axelson Machine Company for several years at Taft, Cal., has recently been promoted to the managership of the Bakersfield district. Gall is well known throughout the San Joaquin.

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CRUDE OIL PRICE QUOTATIONS

Current Postings

EASTERN STATES

	April 21 1926
New York Transit	3.65
Bradford District	3.65
National Transit	3.55
Southwest	3.55
Eureka	3.50
Macksburg	3.30
Gains	2.95
Somerset medium	2.55
Somerset light	2.70
Cabell	2.50
Ragland	1.40
Corning	2.35

CENTRAL STATES

Illinois	2.12
Indiana	2.00
Lima	2.23
Plymouth	1.65
Princeton	2.12
Waterloo	1.10
Wooster	2.35

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	2.05
33 to 35.9	1.95
32.9 and below	1.85

MID-CONTINENT

	Prairie Sinclair*	Texas Gulf	Magnolia
Below 28			1.20
28 to 28.9 gravity		1.40	1.40
29 to 29.9 gravity		1.48	1.48
30 to 30.9 gravity		1.56	1.56
31 to 31.9 gravity		1.64	1.64
32 to 32.9 gravity		1.72	1.72
33 to 33.9 gravity		1.80	1.80
34 to 34.9 gravity		1.88	1.88
35 to 35.9 gravity		1.96	1.96
36 to 36.9 gravity		2.04	2.04
37 to 37.9 gravity		2.12	2.12
38 to 38.9 gravity		2.20	2.20
39 to 39.9 gravity		2.28	2.28
40 to 40.9 gravity		2.36	2.36
41 to 41.9 gravity		2.44	2.44
42 to 42.9 gravity		2.52	2.52
43 to 43.9 gravity		2.60	2.60
44 to 44.9 gravity		2.68	2.68
45 to 45.9 gravity		2.76	2.76
46 to 46.9 gravity		2.84	2.84
47 to 47.9 gravity		2.92	2.92
48 to 48.9 gravity		3.00	3.00
49 to 49.9 gravity		3.08	3.08
50 to 50.9 gravity		3.16	3.16
51 to 51.9 gravity		3.24	3.24
52 and above		3.32	3.32

*Sinclair's postings include no oil above 44 gravity.

TEXAS PANHANDLE

Posted by Magnolia, Kay County Gas Company and the Plains Pipe Line Company, April 14.

	April 21 1926
Below 31 gravity	1.20
31 to 33.9	1.35
34 to 36.9	1.55
37 to 39.9	1.70
40 and above	1.75

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran, Somerset and Big Lake crude

	Somerset (Grayburg)	Humble O. & R. Co. Texas Co.*
28 to 28.9 gravity	1.15	1.40
29 to 29.9 gravity	1.25	1.48
30 to 30.9 gravity	1.31	1.56
31 to 31.9 gravity	1.39	1.64
32 to 32.9 gravity	1.47	1.72
33 to 33.9 gravity	1.55	1.80
34 to 34.9 gravity	1.63	1.88
35 to 35.9 gravity	1.71	1.96
36 to 36.9 gravity	1.79	2.04
37 to 37.9 gravity	1.87	2.12
38 to 38.9 gravity	1.95	2.20
39 to 39.9 gravity	2.01	2.28
40 to 40.9 gravity	2.07	2.36
41 to 41.9 gravity	2.13	2.44
42 to 42.9 gravity	2.19	2.52
43 to 43.9 gravity	2.25	2.60
44 to 44.9 gravity	2.31	2.68
45 to 45.9 gravity	2.31	2.76
46 to 46.9 gravity	2.31	2.84
47 to 47.9 gravity	2.31	2.92
48 to 48.9 gravity	2.31	3.00
49 to 49.9 gravity	2.31	3.08
50 to 50.9 gravity	2.31	3.16
51 to 51.9 gravity	2.31	3.24
52 and above	2.31	3.32

Corsicana Heavy $1.15 per barrel, posted by Magnolia.

*Gulf Coast light oil is included in this schedule, posted by The Texas Company.

SOUTH TEXAS

Mirando (Texpata)	1.15
Mirando (Magnolia)	1.15

GULF COAST

Grade "A"	1.50
Grade "B"	1.25
Grade "B"*	...
Below 25 gravity	1.25
25 to 25.9 gravity	1.30
26 to 26.9 gravity	1.35
27 to 27.9 gravity	1.40
28 to 28.9 gravity	1.45
29 to 29.9 gravity	1.50
30 and above	1.55

*Posted by Humble Oil and Refining Company on all oil not meeting "A" grade requirements at Goose Creek, Hull, Liberty, West Columbia, Orange and Pierce Junction.

LULING

Based on Contract	1.20

WYOMING-MONTANA

Wyoming

Byron	2.25
Ferris	1.53
Elk Basin	2.15

(Continued on page 58.)

California Crude Oil Prices at the Well

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity (degrees)	Signal Hill	Huntington Beach	Inglewood	Olinda-Brea Canon	Rosecrans Dominguez	Torrance	Richfield	Whittier	La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall	Midway-Sunset Elk Hills	McKittrick	Lost Hills	Coalinga	Kern River	Wheeler Ridge
14-14.9	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.87	.87	.87	.87	..	.87	.87	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
16-16.9	.90	.90	.90	.90	..	.90	.90	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
17-17.9	.94	.94	.94	.94	..	.94	.94	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
18-18.9	.98	.98	.98	.98	..	.98	.98	.86	.86	.86	.86	..	.75	.75	.75	.75	.75	.75	.75
19-19.9	1.04	1.04	1.04	1.04	..	1.04	1.04	.87	.87	.87	.87	..	.75	.75	.75	.75	.75	.75	.75
20-20.9	1.10	1.10	1.10	1.10	..	1.10	1.10	.89	.89	.89	.90	..	..	.82	..	.82	.79	..	.78
21-21.9	1.16	1.16	1.16	1.16	..	1.16	1.16	.91	.91	.91	.98	..	..	.90	..	.90	.86	..	.81
22-22.9	1.22	1.22	1.22	1.22	..	1.22	1.22	.94	.94	.94	1.06	..	..	1.00	..	1.00	.93	..	.85
23-23.9	1.28	1.28	1.28	1.28	..	1.28	1.28	..	..	.97	1.14	..	..	1.11	..	1.11	1.00	..	.89
24-24.9	1.34	1.34	1.34	1.34	1.34	1.34	1.34	..	..	1.01	1.22	1.02	..	1.22	..	1.22	1.07	..	.93
25-25.9	1.40	1.40	1.40	1.40	1.40	1.40	1.40	..	..	1.05	1.30	1.08	..	1.33	..	1.33	1.14	..	.97
26-26.9	1.46	1.46	1.46	1.46	1.46	1.46	1.46	..	..	1.09	1.38	1.16	..	1.44	..	1.44	1.21	..	1.01
27-27.9	1.52	1.52	1.52	1.52	1.52	1.52	1.52	..	..	1.13	1.46	1.24	..	1.55	..	1.55	1.28	..	1.05
28-28.9	1.58	1.58	1.58	1.58	1.58	1.58	1.58	..	..	1.17	1.54	1.32	..	1.66	..	1.66	1.35	..	..
29-29.9	1.64	1.64	..	1.64	1.64	..	1.64	..	..	1.21	1.62	1.40	..	1.77	..	1.77	1.42	..	..
30-30.9	1.70	1.70	..	1.70	1.70	..	1.70	..	..	1.25	1.70	1.48	..	1.88	..	1.88	1.49	..	..
31-31.9	1.76	1.76	..	..	1.76	..	..	..	..	..	..	1.60	..	1.99	..	1.99	1.56	..	..
32-32.9	1.84	1.84	..	..	1.84	..	..	..	..	..	..	1.72	..	2.10	..	2.10	1.63	..	..
33-33.9	..	..	..	..	1.92	..	..	..	..	..	..	1.84	..	2.21	..	2.21	1.70	..	..
34-34.9	..	..	..	..	2.00	..	..	..	..	..	..	1.96	..	..	..	2.32	1.77	..	..
35-35.9	..	..	..	..	2.08	..	..	..	..	..	..	2.08	..	..	..	..	1.84	..	..
36-36.9	..	..	..	..	2.16	..	..	..	..	..	..	2.16	..	..	..	..	..	..	..
37-37.9	..	..	..	..	2.24	..	..	..	..	..	..	2.24	..	..	..	..	..	..	..
38-38.9	..	..	..	..	2.34	..	..	..	..	..	..	2.31	..	..	..	..	..	..	..
39-39.9	..	..	..	..	2.44	..	..	..	..	..	..	2.44	..	..	..	..	..	..	..
40-40.9	..	..	..	..	2.54	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	2.64	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	2.74	..	..	..	..	..	..	..	..	..	..	..	..	..	..

	April 21 1926
Grass Creek	2.15
Rock Creek	2.00
Lost Soldier	1.10
Lance Creek	2.15
Mule Creek	1.50
Notches	.65
Big Muddy	2.00
Osage	2.15
Hamilton Dome	1.80
Pilot Butte	1.75
Torchlight-Greybull	2.15
Lander	1.10
Salt Creek (Midwest Refining Company)	
29 to 29.9 gravity	1.48
30 to 30.9 gravity	1.56
31 to 31.9 gravity	1.64
32 to 32.9 gravity	1.72
33 to 33.9 gravity	1.80
34 to 34.9 gravity	1.88
35 to 35.9 gravity	1.96
36 to 36.9 gravity	2.04
37 to 37.9 gravity	2.12
Montana	
Sunburst	1.15
Cat Creek	2.15
NEW MEXICO	
Artesia	1.70
	April 14 1926
Hogback	1.95
CANADIAN CRUDE	
Oil Springs	2.70
Petrolia	2.63

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel.

LOUISIANA-ARKANSAS	
Caddo	
38 gravity and above	2.20
35 to 37.9 gravity	2.10
32 to 34.9 gravity	2.00
Below 32 gravity	1.85
Homer	
35 gravity and above	1.95
33 to 34.9 gravity	1.85
31 to 32.9 gravity	1.75
Below 31 gravity	1.60
Cotton Valley	
All grades	1.10
Haynesville	
33 gravity and above	1.85
Below 33 gravity	1.75
Bull Bayou	
38 gravity and above	2.00
35 to 37.9 gravity	1.85
32 to 34.9 gravity	1.70
	April 14 1926
De Soto crude	2.05
Crichton	1.85
Bellevue	1.50
Jennings	1.50
Vinton	1.50
Edgerly crude	1.50
Urania	1.30
Smackover (Standard, Gulf, Louisiana, Shreveport-El Dorado and Atlanta)	
27 and above	1.40
26 to 26.9 gravity	1.35
25 to 25.9 gravity	1.30
24 to 24.9 gravity	1.25
Below 24 gravity	1.00
The Texas Company	
27 and above	1.40
26 to 26.9 gravity	1.35
25 to 25.9 gravity	1.30
24 to 24.9 gravity	1.25
Below 24 gravity	1.00
El Dorado	
33 gravity and above	1.85
Below 33 gravity	1.75
East Field (Calion)	.95
Stephens District	
26 gravity and above	1.50
Below 26 gravity	1.30

Tests Seek Lower Cretaceous Series In Louisiana Fields

Shreveport, La., April 19.—The Gilliland Oil Company is drilling below 1100 feet in its Talyor B-10, located in section 14-23-8 of the Haynesville Field, in Claiborne Parish, in which a deep test is to be made. Since the discovery of oil and gas in the deep sands at Pine Island and Cotton Valley, local operators are of the opinion that Haynesville, Bellevue, Shongaloo, Homer, Stephens, and other structures in this vicinity may be found to be productive from the sands of the Lower Cretaceous series; and it is probable that deep tests will be drilled in all of these fields within the next year or two.

The plan by which the deep test at Cotton Valley was financed by contributions from several of the producers interested in that area is also being followed at Haynesville, where other companies are contributing "dry-hole" money. It is said that a deep test may be drilled at Shongaloo during the summer.

The Magnolia Petroleum Company (Fortuna Oil Company) is preparing to drill deeper after having tested salt water at a depth of 4281 feet in its Bible wildcat, in section 8-20-9, southeast of the Cotton Valley Field, in Webster Parish. A showing of gas was reported at that depth before casing was set. Fishing jobs are in progress at both of the other deep tests now in progress in the Cotton Valley Field.

The Texas Company has tested salt water at 4405 feet in its Federal-Jeems Bayou deep test, in setcion 15-20-15, of the Caddo District. A string of 4½-inch casing is to be set to exclude the water. The Dixie Oil Company is drilling at 3965 feet in its Jolly well, in section 27-22-15; and the Ohio Oil Company is drilling at 3875 feet and 4095 feet, respectively, in its E. K. Smith 18, located in section 12-21-15, and in its Ardis No. 1, located in section 1-21-15, all in the Pine Island District.

The new field at Lisbon, in Union County, Arkansas, forged to the front last week, with twenty-one completions adding 3,165 barrels of new production, which brought the field's total to an average of 6260 barrels per day. The best well of recent completions is located on the Magnolia Petroleum Company's Slaughter lease, in section 9-17-16, where an initial flow of 625 barrels per day was obtained at a total depth of 2117 feet. Olvey and others brought in a 535-barrel well in their No. 3, located on the same farm. Other new wells ranged from 20 to 250 barrels per day in initial production.

The campaign at Urania, the newest field in Louisiana, seems to be subsiding, as only seven wells, averaging 75 barrels per day, were completed there last week. J. S. Abercrombie & Co., newcomers into this territory from the Gulf Coast country, got two 300-barrel wells on the King lease, in section 25-10n-1e; but the other completions yielded only very small wells.

That the Farmersville community of Union Parish is to receive another play is indicated by the fact that the Clark Creek Oil Company has started a well on the Frost-Johnson property, in section 18-23-1e. Surface casing has been set and cemented, and drilling is now in progress at around 1200 feet.

L. M. Emlet and others, who have been prospecting in Sabine Parish for a number of years, are preparing to drill another wildcat test on the property of the Sabine Lumber Company in section 8-7-13, near Zwolle.

Federal Counsel Seeks to Advance Date of Oil Cases

Washington, D. C.—The United States Supreme Court has been asked by the Federal counsel in the oil cases to advance the suits against the Pan-American Petroleum & Transport Company and the Pan-American Petroleum Company so that they may be heard during the term to begin next October. In the regular course of procedure at least 18 months would elapse before the cases would come up for argument.

The motion to advance is based on the ground that delay will cause loss to the Government. It is pointed out that the right to immediate possession of some 37,760 acres of petroleum reserve land is involved, and that the value of the lands may be seriously impaired or destroyed by an undue delay in the final disposition of the case.

Prompt disposition of this case, it is declared, will serve to expedite the decision in the Mammoth Oil Company case, involving Naval Reserve No. 3, which is now pending in the Court of Appeals.

Climax Oregon Representative

J. L. Latture Equipment Company, 354 Belmont Street, Portland, Ore., has been appointed sales representative of the Climax Engineering Company, Clinton, Iowa, manufacturers of Climax "Trustworthy" Engines and Power Units. The J. L. Latture Equipment Company has as sales territory the states of Oregon, Washington and Idaho.

A carload shipment, consisting of a complete line of Climax engines and parts, has already been sent to the company, so that its customers will be in a position to receive immediate shipment and their requirements may be met without delay.

AVERAGE DAILY PRODUCTION FOR U.S.

United States Daily Average Production by Weeks

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

Week Ending	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Total
January 2, 1926	463,500	102,850	276,700	90,250	44,950	196,050	103,500	105,350	633,000	2,002,250
January 9	449,750	99,950	261,700	88,100	44,200	184,150	101,000	105,950	629,000	1,963,800
January 16	447,750	100,400	258,650	88,750	43,500	184,250	100,500	104,300	619,500	1,947,600
January 23	442,450	98,400	255,300	93,050	43,900	182,000	100,500	99,700	613,000	1,928,350
January 30	443,400	99,050	248,550	91,300	43,400	159,500	99,500	96,200	612,000	1,892,900
February 6	445,750	100,650	246,150	91,550	44,300	171,650	99,500	98,700	608,000	1,906,250
February 13	449,000	101,250	243,600	90,950	43,400	170,150	99,000	98,650	606,500	1,902,500
February 20	450,000	102,600	243,100	90,100	44,600	169,900	99,000	99,950	603,500	1,902,750
February 27	455,400	103,250	251,100	93,600	48,150	167,000	98,500	96,350	603,000	1,927,050
March 6	453,150	103,950	258,100	90,850	49,450	163,900	98,000	103,900	599,000	1,920,300
March 13	452,700	103,350	262,350	95,300	48,650	164,200	97,500	103,750	607,500	1,935,200
March 20	451,350	102,850	260,300	94,450	48,700	165,100	97,500	101,700	607,000	1,928,950
March 27	461,850	103,050	260,300	90,250	48,350	168,050	97,500	99,950	604,500	1,933,800
April 3	478,800	101,050	261,650	86,700	49,150	167,800	99,000	100,800	602,500	1,947,450
April 10	469,200	101,300	264,800	86,550	51,150	169,450	100,500	106,250	597,000	1,946,200
April 17	458,650	102,150	264,250	88,500	50,450	171,350	101,500	107,100	596,000	1,940,000
Increase over past week	.....	850	.....	1,950	.....	1,950	1,000	850	.....	.....
Decrease over past week	10,550	.....	550	.....	700	.....	.....	.....	1,000	6,200

Texas

NORTH TEXAS

	April 17	April 10
Burkburnett	12,300	12,350
Electra	16,200	16,200
Iowa Park and K-M-A	4,450	4,400
Wilbarger	12,850	12,600
Panhandle	8,200	7,600
Petrolia	450	450
Archer County	31,150	31,250
Others	2,000	1,300
Total	87,600	86,250

EAST CENTRAL TEXAS

Mexia	13,400	13,200
Currie	1,050	1,050
Richland	1,700	1,800
Corsicana-Powell	30,550	31,100
Wortham	9,400	9,600
Total	56,100	56,750

WEST CENTRAL TEXAS

Stephens County	13,450	13,500
Eastland County	5,950	6,000
Desdemona	2,650	2,650
Young County	7,850	7,850
Palo Pinto County	550	550
Callahan County	3,450	3,450
Shackelford County	2,750	2,750
Reagan County	34,800	35,300
Others	10,000	10,150
Total	81,400	82,150

SOUTHWEST TEXAS

Luling	22,650	22,650
Mirando	6,600	6,600
Somerset	2,150	2,250
Lytton Springs	6,850	7,300
Piedras Pintas	250	200
Others	650	700
Total	39,150	39,700
Tot'l Tex. (outside Gulf Coast)	264,250	264,800

GULF COAST

Goose Creek	8,850	8,900
Hull	18,300	18,250
Saratoga	1,200	1,300
Blue Ridge	450	600
Damon Mound	900	1,000
Batson	1,200	1,300
West Columbia	9,400	9,350
Humble	3,550	3,550
Pierce Junction	1,300	1,650
Sour Lake	4,050	3,850
Spindletop	4,350	2,100
Orange County	11,650	12,550
Edgerly	1,100	1,100
Evangeline	1,000	1,100
Vinton	6,250	6,300
Lockport	2,650	2,850
South Liberty	6,000	6,100
Big Creek	1,100	1,300
Boling	3,850	2,150
Others	1,250	1,250
Total	88,500	86,550

Oklahoma

North Braman	2,350	2,650
South Braman	9,500	10,000
Blackwell	3,950	3,900
Hubbard	1,850	1,850
Thomas	5,200	5,950
Tonkawa	37,800	38,800
Garber	33,150	37,850
Burbank	41,750	41,650
Osage (Outside Burbank)	32,900	32,850
Watchorn	2,450	2,500
Cushing	21,900	29,950
Yale Jennings	16,100	16,100
Davenport	17,050	18,550
Bristow-Slick	30,200	30,100
North Okmulgee	17,900	17,900
Lyons-Deaner	4,250	4,250
Stroud	2,350	2,400
Cromwell	18,500	18,550
Papoose	12,300	12,500
Wewoka	31,650	32,800
Duncan District	7,350	7,350
Graham	9,500	9,500
Fox	4,100	4,100
Healdton	14,850	14,900
Hewitt	12,150	12,150
Others	67,600	68,100
Total	458,650	569,200

California

Santa Fe Springs	49,000	50,000
Long Beach	103,000	103,000
Huntington Beach	45,500	44,000
Torrance	28,000	29,000
Dominguez	21,500	21,000
Rosecrans	18,000	19,000
Inglewood	51,000	51,000
Midway-Sunset	93,000	93,000
Others	187,000	187,000
Total	596,000	597,000

North Louisiana

Homer	5,800	5,800
Haynesville	10,250	10,300
Caddo Light	8,550	8,500
Caddo Heavy	2,200	2,150
De Soto-Red River	3,950	3,950
Elm Grove	600	600
Bellevue	2,600	2,500
Cotton Valley	8,350	8,100
Urania	8,150	9,250
Total	50,450	51,150

Kansas

	April 17	April 10
Florence-Covert	1,750	1,750
Peabody-Ebling	4,350	4,350
Eldorado-Towanda	13,900	13,900
Augusta-Fox Bush	4,750	4,800
Rainbow Bend	4,900	4,750
Russell	5,400	5,500
Greenwodd County	41,750	40,800
Others	25,350	25,450
Total	102,150	101,300

Arkansas

El Dorado	7,400	7,450
Smackover Light	17,950	17,850
Smackover Heavy	135,200	133,750
Stephens	1,550	1,650
Nevada	3,000	3,000
Lisbon	6,250	5,750
Total	171,350	169,450

Mountain States

WYOMING

Salt Creek	55,200	52,950
Grass Creek	2,800	2,800
Elk Basin	600	600
Big Muddy	3,400	3,400
Lost Soldier	4,250	4,200
Rock River	300	2,950
Teapot Dome	1,350	1,350
Others	4,650	4,900
Total	75,250	73,150

MONTANA

Cat Creek	2,950	2,950
Sunburst	18,500	19,800
Total	21,450	22,750

COLORADO

Moffats (Craig)	2,900	2,850
Fort Collins	2,650	2,600
Florence	400	400
Others	500	500
Total	6,450	6,350

NEW MEXICO

Artesia	3,000	3,000
Hogback	450	450
Rattlesnake	500	550
Total	3,950	4,000
Total Rocky Mountains	107,100	106,250

EASTERN STATES

(Including Ill., Ind., Ky., Pa., Ohio, W. Va., and N. Y.)	101,500	100,500

PRODUCTION SUMMARY

East of Rockies	1,236,900	1,242,950
United States	1,940,000	1,946,200

New Production Adds to Los Cerritos Output

Long Beach, Calif.—Contrary to expectations, production in the Los Cerritos extension of Long Beach field registered a 1200 barrel increase in the daily average production for the week ending April 17, increasing to 15,200 barrels.

The temporary spurt in the field's output was due to completion of five pumpers, with an aggregate initial of 690 barrels, and reconditioning some settled production.

W. H. Playter's well, on the northeastern extremity of the field, surprised local operators when it came in from 4425 feet making 125 barrels. The oil was 21 degrees Baume gravity and clean. Completion of this well, which was not expected to make more than 100 barrels at most, opens up for drilling considerable acreage in the northeastern sector of Los Cerritos, a portion of the field comparatively neglected, relatively speaking.

Completions at Los Cerritos during the week include the Lindauer Oil Co.'s Los Cerritos 7, which made 125 barrels from 4390 feet; E. L. Craigen's Los Cerritos 3, which made 145 barrels from 4455 feet; Craig-Burns Oil Company's Los Cerritos 18, which made 145 barrels from 4460 feet; Featherstone and Preston's No. 16, which made 150 barrels from 4475 feet, and W. I. Lake's No. 2, which made 125 barrels from 4425 feet.

John W. Anderson, for some time a representative of the Boykin Machinery & Supply Company and the American Seamless Tube Corporation, resigned recently to go with the Ross-Meehan Foundries of Chattanooga, Tenn., manufacturers of various castings. He has been placed in the Houston district and maintains an office at 342 West Building, Houston.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	46	14	35	6	4	3	7	5	4,540	985
California	16	20	13	17	..	..	3	3	2,978	4,355
Colorado	..	1	..	..	..	..	..	1	....	.....
Indiana	..	2	..	2	..	..	..	..	....	45
Illinois	6	3	4	2	..	..	2	1	78	75
Kansas	34	20	22	12	4	1	8	7	2,440	3,200
Kentucky	19	22	15	15	..	1	4	6	518	82
Louisiana	19	26	12	22	5	2	2	2	1,140	1,805
Michigan	2	..	2	..	..	..	..	..	52	.....
Mississippi	..	..	..	..	..	..	..	..	....	.....
Montana	6	6	6	2	..	1	..	3	3,690	205
New York	8	6	8	6	..	..	..	..	20	28
New Mexico	..	6	..	5	..	..	..	1	....	350
Ohio	33	25	17	21	8	1	8	3	423	224
Oklahoma	89	98	57	55	7	12	25	31	27,343	34,788
Pennsylvania	43	39	35	28	6	7	2	4	116	170
Tennessee	..	..	..	..	..	..	..	..	....	.....
Texas	138	123	81	72	5	6	52	45	31,434	27,365
Utah	..	1	..	1	..	..	..	..	....	1,200
West Virginia	32	32	12	12	13	12	7	8	231	197
Wyoming	9	8	8	6	..	..	1	2	780	400
Totals	500	452	327	284	52	46	121	122	75,783	75,474

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

Texas

ARCHER COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Barnsdall Oil Co. Lowe 2	10	1207
T. B. Wilson 16-B	60	1710
L. T. Burns et al L. F. Wilson 1, lot No. 33	*	1650
A P. Jackson 2	65	1564
J. S. Cosden-Consolidated Oil Co. Oldham 5-A	750	1360
Golding-Cochran et al Lauster 1	*	1225
Gulf Prod. Co. J. C. King 1	*	1509
L. C. Herron 1-D	*	1182
C. L. Abercrombie 1-A	*	1520
M. W. Jackson 6-A	60	1562
B. R. Jeske 2	150	1172
L. W. McCrory 6-C	60	1396
A. P. Nichols 30	105	1557
Kell-Kruger et al Prideaux 1	15	704
Magnolia Pet. Co. McCrory 1	*	2210
McCarty Oil Co. L. F. Wilson 17.	70	1577
L. F. Wilson 22-B	20	1591
Muse-Robertson et al A. P. Jackson 3-B	*	1561
Murchinson-Fain Oil Co. Pace 1	*	1265
P. Oakes et al Dale 1	*	1802
J. J. Perkins et al Anderson 13	250	1416
Primrose Ref. Co. et al Wolf 8	*	1520
Shasta Oil Co. Ferguson 1	*	1856
Sun Oil Co. Brown 1	400	1155
Texhoma O. & R. Co. B. R. Jeske 1	*	1227
S. E. Oldham 16	130	1377
S E Oldham 16	35	1373
Parrish 3-A	45	1579
Texhoma & Republic Prod. Co. Oldham 2	20	1060
The Texas Co. B. R. Jeske 6	*	1232
B. R. Jeske 7	25	1176
Prideaux 3	30	656
Wanderer Oil Co. Turbeville 1	*	1650
D. M. Whittekin et al McCrory 1	*	1503

BROWN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Anderson-Schults et al Clark 1	*	2254
Arkansas Fuel Oil Co. Gaines 1	*	1724
Boysen-Ramsier et al's Smith 1	15	1591
Conway Bros. et al's Pickett 4	75	1306
Pickett 5	125	1298
Eastland Oil Co. Stone 1	*	1565
Gillespie et al Newton 2	25	1322
Gillman-Murray et al Chambers 9	80	1223
Gross-Swinney et al Byrd 2	10	1340
Hart et al Brooks 1,	*	1280
Humble O. & R. Co. Stover 2	¶2	1138
McCarter et al Allen 3	*	1122
McLester Oil Co. Clark 6	45	1210
Mee et al Sweet 1	†	1537
Mook-Texas Oil Co. Newton 4	10	1339
Roth & Faurot et al Welch 1	*	1162
E. L. Smith Oil Co. Dunn 2	400	1144
Dunn 12	250	1129
Edington 1	*	1375
Stout-Preston et al Gaines 1	15	2430
The Texas Co. Dunn 5	400	1146

COLEMAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Burke-Gries & Gwinnup et al J. C. Dibrell 1	350	1928
Canary et al J. P. Morris 2	40	2830
French et al J. P. Morris 1	*	2757

CALLAHAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Clark-Baldridge et al Seamons 1	*	1505

EASTLAND COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Barker-Adams et al Butler 1	10	1463
Lewis et al Schmick 1	*	1810
TP Coal & Oil Co. Butler 26	15	3471

SHACKELFORD COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Magnolia Pet. Co. J. L. Terry 4	25	2110
Marland & Roeser-Pendleton's W. I. Cook 3-A (sec 85)	*	1390

Company, Well and Location	Initial Production Bbls.	Depth
Milham Corp. Simpson 1	*	1609
Roeser-Pendleton et al W. I. Cook 1-B, (sec 85)	600	1205
STEPHENS COUNTY		
Christie Bros. et al Gardenshire 2	5	2130
Reeves-Meredith et al Tolle 1	*	1180
The Texas Co. Curry 12	¶1¼	3138
PALO PINTO COUNTY		
Hart et al McDonald 1	*	1397
Moore-Sneboldt et al Slemmons 2	200	3670
THROCKMORTON COUNTY		
Red Bank Oil Co. V. Parrott 1	425	3955
BAYLOR COUNTY		
Magnolia Pet. Co. W. H. Portwood 5	15	1434
CLAY COUNTY		
Southern Core Drilling Co. Winfrey 1	*	1903
FOARD COUNTY		
The Texas Co. McCoy 1	*	3915
MONTAGUE COUNTY		
Benton-Woods et al Hinds 5	110	901
F-H-E Oil Co. Hinds 2	60	913
Gulf Production Co. R. W. Cunningham 2	35	975
R. W. Cunningham 3	95	986
Pure Oil Co J. W. Maddox 1-A	50	955
The Texas Co. Oldham 5	75	1125
Cunningham 1	¶20	1825
Texhoma O. & R. Co. Rowland 6-A	100	1131
BURKBURNETT		
W. H. Hammon et al A. C. Friberg 1	*	1405
YOUNG COUNTY		
Applegate et al Zimmerman 1	*	3003
Bridwell-Heydrick et al Beardon 1	75	1075
Humble O. & R. Co. Mercer 10	50	1065
Long et al Bryan 2	*	985
Prairie O. & G. Co. Boren 5	20	1080
Lee Wilson et al Beardon 7	75	1083
ELECTRA		
Bullington-Lee & Pendleton et al Jennings 16	35	1486
Culberson-Hunter et al Waggoner Bros. 2	*	1946
Dale Oil Corp. Jennings 23	35	1604
Gulf Prod. Co. E. D. Collett 12	*	1964
Humble O. & R. Co. Waggoner 1-D Mitchell-Waggoner 2	15	2000
	15	587
Magnolia Pet. Co. Sam Kelly 1	*	2024
Perkins-Cullum et al Long 1	*	1950
F. W. Weaver et al G. E. Nance 1	*	1875
K-M-A AND IOWA PARK		
Boller-Wolfe et al Daume 1	*	1853
Simms Oil Co. Dutton 1-A	30	1827
Petroleum Prod. Co. A. & K. 20-B	15	1642
W. A. Plummer et al Chilson 7	5	690
Texhoma O. & R. Co. Mitchell 3	*	1926
SOUTH VERNON DISTRICT		
Barkley-Meadows et al Stephens 11-A	*	2325
Stephens 7-B	30	1255
Empire Gas & Fuel Co. (was McCamey et al) Stephens 35	35	1270
J. J. Garretson et al Waggoner 1	*	2600
Independent O. & G. Co. Waggoner 1	*	2915
Phillips Pet. Co. Waggoner 1-EE	30	2626
Waggoner Ref. Co. Waggoner 1-A	600	1921
GULF COAST		
Spindletop—		
Yount Lee Oil Co.'s No. 3 Gladys	3500	3000
No. 4 McFadden	3000	3500
Saratoga—		
Fountain Production Co.'s No. 1, P. Ellis	5	1150
Batson—		
Gulf Production Co.'s No. 166 Wing	20	1125
Goose Creek—		
Gulf Coast Oil Corp.'s No. 24 Gaillard 21 acres (wo)	25	2800
Sour Lake—		
T. G. Barclay Oil Co.'s No. 1 Bailey	4	1600
Pevito Oil Co.'s No. 6 Davis	6	890
Hull—		
Gulf Production Co.'s No. 5 W. L. Thomas Fee (wo)	278	3000
Orange—		
Orange Pet. Co.'s No. 11 Chesson (wo)	*	5100
Boling—		
The Texas Co.'s No. 7 Taylor	6000	3900
Humble-Gulf's No. 5 Hawes	450	....
Pierce Junction—		
Gulf Production Co.'s No. 9 E. R. Taylow et al (wo)	1500	3800
SOUTH LOUISIANA		
Vinton—		
Vinton Pet. Co.'s No. 18 Rescue	100	2200
No. 55 Gray 20 acres	100	2400
Edgerly—		
Gulf Refining Company of La.'s No. 24 Bright-Penn (wo)	150	3150
SOUTHWEST TEXAS		
Medina County—		
Medina Oil Co. No. 3 Taylor	6	270
Duval County—		
Houston Oil Co. No. 2 Benavides	250	1780
No. 3 Benavides	250	1780

Kansas

Company, Well and Location	Initial Production Bbls.	Depth
Butler County—		
Magnolia Pet. Co. Skaer 3, NWc SW SW 25-27-4e	25	2013
Phillips Pet. Corp. Truesdale 3, NEc NW SW 27-27-7e	400	2740
6, SEc SW SW 27-27-7e	25	2776
Anderson 1, SEc SW SE 28-27-7e	40	2734
Federal Oil Co., Laughlin 3, NWc NE NE 33-27-7e	200	2745
C. E. Roth & Co. Hanna 8, SEc 33-29-8e	25	2154
Preston & Pacewalk, Lipps 1, NEc NW 32-18-7e	¶3	1185
Chautauqua County—		
Griffeth, Bell et al Oliver 1, NEc NW NW 1-32-10e	¶1½	1986
Chase County—		
Derby & Braden, Newman 1, NWc SW 24-20-9e	*	2500
Cowley County—		
Waite Phillips & Marland, Holman 3, SWc NW SW 19-33-3e	75	3204
Snyder 2, NWc SE SW 21-33-3e	175	3291
Pettit & Banks, Withers 1, NEc NW 32-30-5e	*	2921
Benedum & Trees, Manhanna 3, SEc Lot 19, 6-30-8e	*	2787
Waite Phillips & Marland, Allison 3, NWc NE SE 29-33-3e	*	3350
Elk County—		
Denton Bros., Denton 12, SEc NW SW 34-29-9e	¶2	1510
Elk Pet. Co., Denton 6, C NW SE 3-30-9e	15	1069
Pure Oil Co., Chaffine 9, NWc SE NW SE 14-31-10e	25	1366
Theta Oil Co., Walker 5, C E H NE 27-31-10e	45	1645
Neely Oil & Gas Co., Miller 1, owd, SWc 21-31-10e	*	2465
Gillespie, Lawless 1, NWc NE 7-31-11e	*	2281
Greenwood County—		
Titus et al Prather 9, SWc NE SW NW 29-22-10e	300	2458
Empire Oil & Gas Co., Duby 4, NWc NE SW 14-22-11e	200	1918
Killison 7, SEc NW NW 14-22-11e	100	1904
Manhattan Oil Corp. Green 21, SEc SW NE 10-23-9e	150	2406
Crown Central Pet. Co. Life 1, SWc NW NE 13-26-9e	15	2148
Beacon Oil Co., Wiershing 1, NWc NE SE 23-26-9e	60	2242
Peerless Oil Co. et al, Wagner 1, SWc SE 31-24-11e	*	2019
Lyon County—		
Sheedy et al Atyeo 3, SWc SE 31-21-10e	80	2249
Gillespie et al, Flading 1, SEc NW SW 9-20-12e	*	2017
Russell County—		
Mid-West Ref. Co. Oswald 22, NEc SE NW 8-12-15w	215	2997
Valerius Oil & Gas Co., E. Munsell 1, NWc SW 17-12-15w	175	3005
Sumner County—		
Slick et al, Conrad 1, SEc NE SE 24-32-2e	20	3157
Wilson County—		
Prairie Oil & Gas Co., C. W. Long 16, NEc NW SW SE 32-30-16e	¶	615
Woodson County—		
Marland & Christy, Hessler 9, SWc NE SW 23-23-13e	75	1783

Oklahoma

Company, Well and Location	Initial Production Bbls.	Depth
Carter County—		
Amerada Pet. Corp., Baptiste 22, C SW NW SE 20-5e-1e	20	1818
Creek County—		
Devonian Oil Co., Miller 2, C E L SE NE 14-19-8e	350	2426
Transcontinental Oil Co., Freeman 3, NEc SE SW 14-17-8e	20	2291
Roxana Pet. Corp., Toney 1, NWc SE SW 18-17-8e	35	2582
Phillips Pet. Co., Helacoweney 2, SWc SE 30-15-8e	5	2615
C. L. McMahon, F. Ford 1, NWc 10-19-9e	15	2735
Wells et al, Unallotted 1, NWc 10-18-11e, owd	15	1705
Sunray Oil Co., Sango 1-A, NWc SE NW 6-18-12e	1500	2163
2-A, C W L SE NW 6-18-12e	2200	2149
R. E. Kirshner, Kochaney 1-A, SWc NE SE 23-17-10e	310	2521
J. H. Wright, Dawson 9, C E L NE SW 24-17-10e	45	1875
Henry Oil Co., Gillette 2, C SE SW 5-16-12e	¶2	2068
C. G. Tibbens, Unallotted 23, SWc NE 30-15-9e	720	3059
26, SWc NW NE SW 30-15-9e	15	2285
Mid-Continent Pet. Corp., Walker 4, SEc SW NW 32-14-10e	150	3444
J. B. Greeves, Grayson 2, SEc SW 12-19-8e	*	2924
M. B. Chronic et al, Hazlip 1, C SE SW SW 14-18-8e	*	3320
Transcontinental Oil Co., Wright 1, SEc SW 31-14-9e	*	3830
Comanche County—		
Day Oil Co., Markle 1, SEc NE 28-3n-9w	*	2885
Garfield County—		
Mid-Continent Oil Co., School 40, NEc SE, owd, 13-22-4e	288	2501
Sinclair Oil & Gas Co., Walker 30, (N) C NE NE NE 13-22-4w	6608	4241
34, (N) C SW NW NE 13-22-4w	3220	4367
35, (N) C NW NE 13-22-4w	535	4421
Kisner 25, (W) C E L NW 19-22-3w	25	1383
Morrison 10, SEc NW 31-22-3w	15	2169
Imo Oil Co., McLean 6, NWc SW NW SW 31-22-3w	35	2236
Enid 80 Oil Co., Seamans 4, NW SE NW 1-22-4w	*	1573
Magnolia Pet. Co., Searcy 3, C NE NE NE 15-22-4w	*	4580
Charles Knox, Marley 6, SWc SE 7-22-3w	*	4511
Crews Heirs Oil Co., Crews 18, NWc SE SW 19-22-3w	*	4532
Grady County—		
Oklahoma Nat. Gas Co., Edmundson 3, C NE SW NW 23-5n-8w	¶42	2390
Magnolia Pet. Co., Smith 5, C SW NE 35-5n-8w	¶12	2233
Hughes County—		
Amerada Pet. Corp., Harjo 1, NWc NE NW 5-7-8e	6300	4139
Sands Pet. Co., H. Riley 1, NEc NW 31-9-10e	*	3490
Jefferson County—		
Gypsy Oil Co., Seay 19, NWc NE SE NW 33-6s-5w	125	1362
Pure Oil Co., James 1, SWc SE 28-6s-5w	*	1780

Company, Well and Location	Initial Production Bbls.	Depth
Kay County—		
Marland Oil Co., Olson 1, NEc 13-29-3w	252	3873
Comar Oil Co., Duncan 6, SWc NE SW 21-29-1w	40	2375
Kingfisher County—		
Bu-Vi-Bar Pet. Co. No. 1, SEc 11-19-9w	*	....
Lincoln County—		
Independent Oil & Gas Co., Messawat 1, NWc SW NE 33-17-6e	*	4001
Magnolia Pet. Co., Belless 4, NWc SW SW 3-14-5e	217	3453
Pure Oil Co., Strough 1, NEc SE SE 4-14-5e	207	3467
Magnolia Pet. Co., Chapman 1, NWc SE 10-14-5e	100	3490
Gypsy Oil Co., Caves 11, NEc SW NW 11-14-5e	300	3377
Southwestern Pet. Co., Roberson 3, NEc NW NE 11-14-5e	322	3440
Prairie Oil & Gas Co., Stout 19, SEc SW SW 3-14-5e	100	2653
Okfuskee County—		
Barnsdall Oil Corp., Morgan 1, SEc SW SE 3-12-11e	444	2616
Amerada Pet. Corp., Harjo 12, SEc NE NW 13-12-11e	68	3371
Independent Oil & Gas Co., Sugar 7-A, SWc NW NE 13-12-11e	30	3868
Okmulgee County—		
Simms et al, Kellough 1, owd, NWc NE 21-14-11e	40	2949
C. O. Buckies, Jackson 15, SWc NE NW 5-11-12e	3	1607
Iron Mountain Oil Co., Johnson 15, C WL EH NE SW 24-13-14e	*	1973
Magnolia Pet. Co., G. Jackson 9, SWc NW NE 1-11-13e	*	....
Osage County—		
Beacon Oil Co., No. 13, C SE 27-29-11e	5	1026
Phillips Pet. Co. No. 14, NEc NW SE 2-27-5e	600	2945
Tidal Oil Co. No. 4, SWc NE SW SW 24-24-8e	12	2200
Tidal Osage Oil Co. No. 2, NEc NW NE SE 20-24-9e	50	2271
Peters Pet. Co. No. 4, NEc SE SW 28-24-10e	15	1394
Winona Oil Co. No. 19, SW NW SE 28-24-10e	15	1383
Rose & Westerill No. 12, C N L NW SE SW 25-23-10e	15	1718
Elm Oil Co. No. 13, SEc SW NE NE 23-22-10e	30	1748
Mason & Carter Bros. No. 7, NEc SW NW NE 23-21-8e	20	2230
Tidal Oil Co. No. 23, C SW SE 19-21-12e	5	2108
Continental Oil Co. No. 14, SWc SE NW NW 28-20-12e	90	2051
Barnsdall Oil Co. No. 20, NW NW NE 30-21-12e	*	2263
Pawnee County—		
Magnolia Pet. Co. Altaffer 2, C SE SE NE 5-22-3e	10	4101
E. B. Rich et al, Ackerman 1, NWc SW 3-22-5e	*	3815
Mid-Kansas Oil & Gas Co., McCullough 2, SEc NW NW 4-23-5e	140	3549
Josey Oil Co., Scott 1, owd, SWc NW NW 22-20-6e	45	3101
Payne County—		
Deep Rock Oil & Gas Co., Boyles 5, NEc SW SE 23-18-3e	1550	4258
Mulberry Oil Co., Strip 1, NEc NW NE 6-17-4e	¶15	3587
Pittsburgh County—		
E. T. Richards, Townsend 1, C NE 29-6n-13e	*	1350
Seminole County—		
Carter Oil Co., Williams 4, C NE NW NW 33-11-8e	45	3422
Prairie Oil & Gas Co., Main 1, SEc NE NE 15-8-7e	*	3530
Stephens County—		
Flowers et al, Turner 1, NEc 25-2n-9w	*	2519
Dresser et al, Payne 3, NWc SW SW SE 2-1n-5w	*	1262
Gant et al, Armstrong 1, owd, C NE NE NW 8-2s-6w	*	3557
Tulsa County—		
Holmes et al, Island 2, C E L SE SW 15-19-10e	10	2348
S. E. Vance, Vance 17, C E L NE NW 3-18-12e	¶2	1986
Selby Oil & Gas Co., Russell 7, C N L NW SE 4-16-13e	1	2040
W. C. Cates et al, Ishmeal 3, C W L SW SW NE 13-18-12e	*	1050
Frates Oil Co., Berryhill 3, C N L SH NE SW 1-17-14e	*	1301
Wagoner County—		
S. M. Green, Ponds 1, SWc NE SE 13-19-16e	¶	505
H. C. Deems, Johnson 4, NWc SW SE 31-18-15e	¶1	1986
Larsarskey et al, White 4, NEc SE NE 25-17-16e	15	1302
Hornacker et al, Hawkins 1, SWc NW SE 29-18-16e	*	816
Perry & Hartman, Childers 1, NEc NW 29-17-16e	*	1120
W. Sloaman et al, H. Lewis 1, SEc 19-17-17e	*	1303

Arkansas

Company, Well and Location	Initial Production Bbls.	Depth
Stephens Field, Ouachita County—		
Equity O. & D. Co.'s Morgan 1, 27-15-19	10	2175
J. D. Reynold's Thompson 1, 22-15-19	100	1476
Total, 2 wells	110	
Lisbon Field, Union County—		
Atlantic Oil Prod. Co.'s Andres 3, 16-17-16	100	2144
Coates & Sowell's Dumas 1, 10-17-16	25	2097
Foster et al's Dumas 1, 9-17-16	60	2098
Lion O. & R. Co.'s Goodwin 4, 16-17-16	155	2122
Magnolia Pet. Co.'s Dumas 1, 9-17-16	250	2097
Slaughter 1, 9-17-16	625	2117
Marine Oil Co.'s Slaughter 3, 9-17-16	150	2140
Natural Gas & Fuel Corp.'s Andres 3, 16-17-16	125	2126
Andres 4, 16-17-16	50	2151
Olvey et al's Slaughter 3, 9-17-16	535	2107
Owens et al's Slaughter 1, 4-17-16	335	2131
Pure Oil Co.'s Dumas 1, 9-17-16	65	2105
J. D. Reynolds' Dumas 3, 15-17-16	20	2105
Reynolds & Marr's Mooty 1, 15-17-16	20	2150
Rovenger Oil Corp.'s Dumas 5, 9-17-16	40	2136
Goodwin 4, 16-17-16	30	2126
Simms Oil Co.'s Dumas 2, 9-17-16	¶4-15	2116
Dumas A-5, 9-17-16	70	2114
Wingfield et al's Dumas A-2, 9-17-16	210	2100
Slaughter 5, 9-17-16	175	2092
Woodley et al's Dumas 1, 9-17-16	110	2120
Total, 21 wells	¶4-3165	
Smackover Field, Ouachita County—		
Colcord et al's Laney 5, 31-15-15	50	2605
Marine Oil Co.'s Umstead 10, 5-16-15	110	2371
Meek Trust's LaGrone 1, 36-15-17	40	2393
Roxana Pet. Corp.'s Snyder 5, 34-15-15	90	2361
Simms Oil Co.'s Reynolds 9, 32-15-15	60	2588
Southern Crude Oil Purch. Co.'s Joyce 6, 34-15-15	¶30	2640
Standard Oil Co.'s Umstead 23, 32-15-15	¶40	2662
Sunny Jim Oil Co.'s Laney 3, 36-15-16	20	2010
Unity Pet. Co.'s Berry 8, 33-15-15	150	2640
Smackover Field, Union County—		
Estes et al's Murphy 2, 15-16-15	120	2614
Ferguson Drlg. Co.'s Howard 2, 7-16-15	25	2648
Hickman et al's Hayes 4, 21-16-15	*	2905
E. M. Jones' Murphy 4, 17-16-15	50	2688
Keene & Woolf's Bradford 2, 7-16-15	180	2569
Louisiana Oil Ref. Corp.'s Hodges 4, 7-16-15	¶20	2803
C. E. Murdock's Vestal 2, 17-16-15	250	2531
Natural Gas & Fuel Corp.'s Flenniken 2, 8-16-15	*	2497
Pure Oil Co.'s Bilyieu 6, 8-16-15	120	2383
Total, 18 wells	¶90-1265	

Eastern States

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
Bradford Field—		
South Penn Oil Co. Bingham 439, tract 92	7	....
Bingham 439, tract 94	2	....
Riddle Estate 50	7	....
Forest Oil Co. Baldwin 1	3	....
Franks 1	3	....
Petroleum Reclamation Co. Pratt 11	4	....
Pratt 12	3	....
Mott 4	3	....
Gridiron Oil Co. Duke 9	7	....
Associated Prod. Co. Bingham 568, tract 368	5	....
Hazlewood Oil Co. Bingham 370, tract 16	7	....
T. H. Kennedy, Kennedy 37	4	....
R. C. Lloyd Ekas 6	3	....
Elder, Gallup & Co. Lawton 24	3	....
Golden & Co. Canan 44	3	....
B. Randall Middaugh 1	3	....
C. H. Corwin, Corwin 1	3	....
Hope Oil Co. Still 6	3	....
J. H. Gibson Fair 1	2	....
C. B. Kervin Baldwin 1	3	....
Healey & Daly Bingham 500, tract 27	2	....
Mrs. Joseph T. Jones Jones 7	2	....
Storms & Coast Hanes 1	3	....
D. W. Daly Bingham 1	3	....
Greene County—		
Carnegie Natural Gas Co. J. L. Barney heirs 1	¶2	....
Green Creek Oil & Gas Co. Bert Lohr 1	5	....
Peoples Natural Gas Co. Mrs. Pat Taylor 1	¶1½	....
Philadelphia Oil Co. William Finch 1	¶2	....
W. M. Bissitt & Co. Etta McGuffey 1	¶2	....
Myers, Long & Co. Cora Hawkins 2	¶2¼	....
Venango County—		
Dempseytown Gas Co. Knight 4	¶1	....
L. E. Riddle & Co. McKee 1	2	....
Moyer & Rynd Beers 1	2	....
Hoffman & Son Sloan 14	2	....
Alum Rock Gas Co. Buchner 9	2	....
Clarion County—		
McDowell & White Gibbs 17	2	....
Alum Rock Gas Co. Beichner 7	2	....
Masters & Hess Exley 3	2	....
Butler County—		
Pfeifer & Co. Goehring 4	5	....
Delaney Bros. Delaney 1	*	....
Center-Middle Field—		
Frost Bros. Samuelson 1	2	....
D. Wade Irvine 1	2	....
Beaver County—		
Reed & Co. G. L. Dawson 1	*	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
Allegany County—		
M. J. Crowley Coast 5	4	....
Mrs. G. F. Richardson & Co. Richardson 1	3	....
State Bank of Bolivar Fee 26	2	....
Fee 29	2	....
Sadie Sawyer Sawyer 1	3	....
Cora Townsend Townsend 1	2	....
C. D. Henline & Co. Henline 2	2	....
E. M. Ketchner Fanton 1	2	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
Ritchie County—		
Rowe Bros. John Adams 3	50	....
Braden & Co. Joseph Moore 1	*	....
Carnegie Natural Gas Co. Martha Batson 1	*	....
Hope Natural Gas Co. Lee Flesher 1	¶1¼	....
South Penn Oil Co. Clyde Atkinson 3	30	....
T. A. & E. P. Mellon Conway-Patton 6	¶½	....
Wetzel County—		
Round Bottom Oil & Gas Co. Lewis heirs 1	¶2	....
Manufacturers Light & Heat Co. Thomas Littel 3	5	....
J. B. Orrduff & Co. Emma Kirkhart 1	¶2	....

Company, Well and Location	Initial Production Bbls.	Depth
Wiser Oil Co. John Mason 1	*	3159
Lincoln County—		
Columbia Gas & Electric Co. William Powell 1	¶1	....
Cambridge Gas Co. Acey McAllister 1	¶1	....
A. F. Norris A. F. Norris 3	¶1	....
Calhoun County—		
Martin Crowley Jessie Davis 1	¶2	....
Hope Construction & Ref. Co. Offutt 1	¶2¼	....
Norris & Cain Nancy Jarvis 5	¶2	....
Doddridge County—		
Nay & Kinter C. F. Williams 3	35	....
Philadelphia Oil Co. W. A. Duckworth 9	10	....
Clay County—		
Ohio Fuel Oil Co. J. B. Casto 220-acre tract 8	75	....
Empire Pet. Co. Ellen Cogen 2	¶¼	....
Marshall County—		
Manufacturers Light & Heat Co. D. A. & F. R. Fair 1	5	....
Tom & Sarah Blake 1	3	....
Roane County—		
United Fuel Gas Co. G. W. White 1	¶2¼	....
Ohio Fuel Oil Co. W. A. Burdett 7	5	....
Pleasants County—		
Big Bend Oil Co. McCoy heirs 1	*	....
George Jones & Co. Albert Neely 1	*	....
Putnam County—		
Teays Prod. Co. Fannie Simmons 2	8	....
Harrison County—		
Hope Natural Gas Co. J. W. Sommerville 1	3	....
Tyler County—		
Kotzebue Oil Co. Kotzebue 2	2	....
Cabell County—		
Ortman & Shipe M. E. & C. Merrit 1	¶1	....
Boone County—		
Owens Bottle Machine Co. & Little Land & Coal Co. 3	¶2	....
Gilmer County—		
Valley Gas Co. L. C. Heuitt 1	*	....
Lewis County—		
F. G. Bish & Co. & M. G. Monneypenney 1	*	....

KENTUCKY

Barren County—		
Esslinger Oil Co. Morton 1	8	....
Consolidated Gas Co., H. W. Duff 16	12	....
Houchins Leasehold Co. Ziegler 11	4	....
Gorby & Co. Ellis 1	*	....
Walt Bales 3	*	....
W. E. Steffy 3	2	....
Owensboro District—		
White Plains Oil & Gas Co. H. McBrayer 4	5	....
J. J. Midkiff 2	15	....
Chicago Petroleum Syndicate Gunther-Gant 3	100	....
Penn-Indiana Oil Syndicate Laura Mercer 2	15	....
Warren County—		
Orrin Wood J. J. Barbee 5	*	510
Pryor & Caskey W. Price 8	*	457
Wiles & Co. Shannon 4	2	....
Roy Hogan Ford 8	3	....
Cumberland-Monroe Counties—		
Sam K. Baird & Co. Grider 1	200	....
G. Brockman 1	120	....
Lawrence-Johnson Counties—		
Swiss Oil Corp. J. M. Fyffe 16	10	....
G. Evans 15	20	....
Morgan County—		
C. W. Wheeler & Co. Tackett 13	2	....

SOUTHEASTERN OHIO

Washington County—		
J. C. Dinsmore Estate O. W. Cody 27	*	....
Muskingum Gas Co. Addie Hays 2	*	....
Goddard & Co. W. G. Merrill 1	*	....
Bode & Co. Charles W. White 1	*	....
Peoples Savings Bank Co. Louis McBride 7	2	....
Noble County—		
O. C. Dunn & Co. Louis Cornett 2	2	....
Joe Saling & Co. J. A. Miller 1	¶1	....
H. M Moreland & Co L. W. Moreland 5	*	700
Morgan County—		
Arkansas Oil & Gas Co. Stoneburner 3	¶1	....
The Sun Co. Joe Longstreth 4	10	....
Monroe County—		
Dave Crawford & Co. Eliza H. Jeffers 1	*	....

CENTRAL OHIO

Athens County—		
Fairfield Gas Co. McKinley 3	¶½	....
R. E. Hamrick & Co. C. D. Swartz 2	¶1	....
Ronshausen & Co. W. D. Whaley 9	¶½	....
Ohio Oil Co. F. R. Baker 4	20	....
Biddle Oil & Gas Co. J. F. Biddle 2	20	....
Townsend Oil & Gas Co. Eliza Smoot 1	8	....
Licking County—		
Edward H. Everett Co. Mary Wilhelm 1	55	....
Leonard Oil & Gas Co. Dora Meyers 1	¶1½	....
E. J. Edmonds & Co. Ellen E. Forey 1	8	....
Holmes County—		
Logan Gas Co. George W. Brown 1	15	....
Ohio Oil Co. C. E. Carpenter 2	15	....
Arkansas Fuel Oil Co. William Miller 2	10	....
Hocking County—		
Gordon Oil Co. James Noble 2	175	....
Westbrook & Co. J. W. Starr 1	*	....
Muskingum County—		
The Pure Oil Co. C. H. Wright 1	30	....
Meigs County—		
Simon Lebow & Co. C. A. & Francis Holter 1	10	....
Ashland County—		
Klise-Eckstein-McCann Co. S. Sponsler 2	¶1	....
Coshocton County—		
Bell Bros. William Johnson 2	¶¼	....
Perry County—		
John Denman & Son A. & M. McGowan 19	*	....

NORTHWESTERN OHIO

Wood County—		
John Geldin & Co. Michael Roller 1	20	1243
Hancock County—		
The Ohio Oil Co. C. L. Turley 8	20	1460
Sandusky County—		
Frank Haubert & Co. George Vandersall 6	8	1306

ILLINOIS

Crawford County—		
Craig, Lowrie & Co. R. Weger 11	10	1040
Peoples Banking & Trust Co. H. M. Wilson 9	*	1052
Ohio Oil-Silurian Oil Co.'s E. D. Culp 10	5	960
Wabash County—		
J. S. Young Jr. & Co. Franklin School lot 1	60	1568
Leighty & Co. H. Buchannan 1	*	1600
Clark County—		
The Ohio Oil Co. J. S. Phillips 23	3	500

MICHIGAN

Saginaw County—		
The Sun Co. J. W. Weiss 1	50	1827
St. Clair County—		
St. Clair-Sanilac Prospecting Co. Unknown 1	2	400

Louisiana

Bellevue Field—		
G. W. Weatherbee's Smith 1, 23-19-11	¶1	389
Caddo Parish—		
Brewster et al's Jolley 1, 23-22-15	20	1000
Gulf Ref. Co.'s Ferry Lake 229, 15-20-16	¶7	2275
Lane 17, 13-21-15	¶8	3674
Mrs. N. M. Hancock's Hampton 2, 15-21-15	10	1747
The Texas Co.'s Noel B-12, 14-21-15	5	1680
Total, 5 wells	¶15-35	
Monroe Gas Field—		
G. E. Jordan's Roberts 1, 12-18-4e	¶8	2223
Shongaloo Field—		
Arkansas Natural Gas Co.'s Miller 1, 30-23-9	¶6	2714
Urania Field—		
J. S. Abercrombie & Co.'s King 3, 25-10-1e	350	1510
King 5, 25-10-1e	300	1547
Explorer Oil Corp.'s Keith 1, 36-10-1e	30	....
Louisiana Oil Ref. Corp.'s Tremont A-4, 28-10-2e	*	1656
Natural Gas & Fuel Corp.'s Tullos 2, 26-10-1e	10	1485
Tullos 3, 26-10-1e	15	1494
Ozley et al's Fee 1, 26-10-1e	50	1550
Total, 7 Wells	755	

EAST TEXAS

Marion County, Western Extension Caddo Field—		
Moffett et al's Braiden 1, Tucker Headright Survey	12	2416
Panola Field, Panola County—		
Magnolia Pet. Co.'s Jernigan 1, Thorpe Headright Survey	¶4	1022
J. C. McCormack's Ramsey 1, Haley Headright Survey	*	2950
Total, 3 wells	¶4-12	

California

Long Beach—		
B. K. & M. Oil Co.'s Cerritos 1	250	4395
California Pet. Corp.'s Fields 18	48	4529
A. J. Delaney's Los Cerritos 20	50	4400
Los Cerritos 29	200	4400
Ed Herwick's Los Cerritos 25	50	4495
Julian Pet. Corp.'s Patton 1	150	4425
Rainbow Pet. Co.'s Los Cerritos 8	160	4490
Athens-Rosecrans—		
California Pet. Corp.'s McCormick 1	*	5156
Union Oil Co.'s Hersey 1	*	4432
Brea-Richfield—		
Continental Oil Co.'s Kraemer	200	4511
Baldwin Hills-Inglewood—		
Standard Oil Co.'s L. A. Investment 1-42	1300	2392
Torrance—		
C. C. M. Oil Co.'s Del Amo 29	100	3660
Shell Co.'s Redondo 10	90	3590
Huntington Beach—		
Standard Oil Co.'s Newland	*	4237
Midway—		
Standard Oil Co.'s Pacific Oil Midway 41	180	4766
Pacific Oil Midway 59	200	4490

Mountain States

WYOMING

Salt Creek—		
Midwest Oil Co. No. 33L NE¼ 23-40-79	250	2498
No. 18S, NE¼ 22-40-79	60	2328
No. 1, SW¼ 26-40-79	50	1170
Salt Creek Consolidated Oil Co. No. 11A, NE¼ 3-39-79	100	1710
Wyoming Oil Fields Co. No. 33, SE¼ 24-40-79	75	1337
No. 13A, SE¼ 22-40-79	80	1630
Wyoming Associated Oil Co. No. 11, SW¼ 24-40-79	90	1290
No. 19A, NE¼ 26-40-79	75	1448
Willow Creek—		
Lincoln-Salt Creek Leasing Co. No. 1, 18-33-118	*	1075

MONTANA

Kevin-Sunburst—		
Rice-Fulton Oil Co. No. 9, NW¼ 31-35-1	3000	1462
Tri-State Oil Co. No. 8S, SW¼ 30-35-1	110	1220
Rice Oil Co. No. 5S, 30-25-1	35	1450
Caine Oil Co. No. 1P, SE¼ 32-35-1	450	1520
Wymont Oil Co. No. 7, 25-32-2	60	1480
Ferdig Interests' No. 5B, 25-23-2	35	1530

WILDCATS FROM ALL SECTIONS

Central West Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Crane County—		
Independent O. & G. Co. et al's Len Taylor 1	115	2045
Marland Oil Co. Cowden 1	*	3483
Mitchell County—		
Magnolia Pet. Co. C. M. Adams 3	35	3054
Reagan County—		
Marland Oil Co. J. T. Cole 1	*	1786

DRILLING REPORT

BREWSTER COUNTY—Green Valley Oil Co. J. P. Wilson 4, dr 215 ft.

COKE COUNTY—Lipan Oil Co.'s E. C. Rawlings 1, dr 1365 ft.

CONCHO COUNTY—R. C. Dutton et al's W. O. Schultz 1, sd 1355 ft. K. Kimberlin et al's Schultz 1, dr 795 ft.

CRANE COUNTY—Cordona Oil & Potash Co.'s Cowden 1, sd 3571 ft. J. S. Cosden et al's W. E. Connell 1, elevation 2802 ft, top salt 950 ft, dr salt 1200 ft. Cranfill Bros. Oil Co.'s P. J. Lea 1, lcn. Davis-Hoffman et al's University 1, lcn. Gilliam-Conner et al's W. H. Penix 1-A, Elev. 2820 ft, rig. Gulf Prod. Co.'s J. T. McIlroy 1, lcn. Magnolia Pet. Co. et al's University 1, elev. 2601 ft, top salt 1145 ft, top lime 2925 ft, putting on pump with 2500 ft oil in hole, 3040 ft. Marland Oil Co.'s E. S. Hughes 1-A, sec 2, top salt 475 ft, dr 1410 ft. Texas Dev. Co.'s Cowden 1, dk burned, td 3820 ft. Penn-Texas Dev. Co.'s Cowden 1, fsh tools with hole full water 3352 ft. The Texas Co.'s Sanger 1, materials. F. P. Zoch & Marland Oil Co.'s Keith-Hughes 1, sec 92, elev. 2594 ft, top salt 728 ft, top lime 2290 ft, swabbed 55 bbls oil and little water 2564-70 ft.

CROCKETT COUNTY — California Co.'s University 2, lcn in sec 34, blk 7. J. S. Cosden et al's Noelke 1, dr 2165 ft. Carl Cromwell et al's Powell 2, top salt 1161 ft, dr 2520 ft; Powell 3, ur 12½ cas 800 ft; Powell 4, rig. Crockett Drilling Synd.'s J. M. Shannon 2, sd 2375 ft; Shannon 3, lcn. Cumberland O. & G. Co. et al's Couch 1, dr 375 ft. Gulf Prod. Co.'s Powell 1-A, elev. 2795 ft, top salt 1140 ft, dr 2165 ft; Powell 2-A, top salt 1175 ft, dr 1775 ft; Powell 3-A, dr 590 ft; G. L. Thompson 1, rig. Humble O. & R. Co.'s Sorg 1, sd making little oil and water, td 2680 ft. Humble & Marland's Powell 4, top salt 1128 ft, dr 1735 ft; Powell 5, rig; Powell 6, dr 795 ft; Powell 7, dr 235 ft; Powell 8, rig. J. K. Hughes et al's Powell 1, top salt 1170 ft, dr 1300 ft; Powell 2, lcn; Powell 1-A, fsh 320 ft. Humphreys Corp.'s University 1, dr 4405 ft. Magnolia Pet. Co.'s Shannon 1, sr with hole full water 2550 ft. Marland Oil Co.'s Todd 1, dr 640 ft. Roxana Pet. Corp.'s Powell 1, dr 940 ft. Wm. Schaffer et al's University 1, sd 1365 ft. Ben Simon et al's Shannon 1, rig. The Texas Co.'s J. S. Todd 1, sd repairs with show oil 1900-1910 ft, td 1980 ft. H. F. Wilcox et al's University 1, rig. F. P. Zoch & Marland's University 1, lcn.

CULBERSON COUNTY—Deep Rock Oil Co.'s TP Fee 1, rig. Pure Oil Co.'s Quaid 1, dr 1965 ft.

JEFF DAVIS COUNTY—Herbert Oil Co.'s T. M. Wingo 1, dr lime 2520 ft. Humble O. & R. Co.'s McCutcheon 1, dr 780 ft.

ECTOR COUNTY—J. C. Cooke et al's Henderson 1, lcn. J. S. Cosden et al's J. L. Johnson 1, dk; W. E. Connell 1-A, materials; W. E. Connell 1-B, materials. Broderick-Calvert et al's W. F. Cowden 1, lcn. The Exploration Co.'s Kloh et al 1, lcn. Simms Oil Co.'s W. P. Edwards 1, lcn. Skinner et al's J. W. Buchanan 1, lcn.

GARZA COUNTY—Deep Rock Oil Co.'s S. M. Swenson 1, sd 1620 ft. Emerald Oil Co.'s Connell 1-A, sd 3200 ft; Boren 1, dr 2490 ft. Mid-West Exploration Co.'s N. N. Rogers 1, top salt 535 ft, dr 1790 ft.

GLASSCOCK COUNTY — Case-Hoover et al's Case 1, dr 2870 ft. Mascho-Marland Oil Co.'s Nellie Calder 1, fsh cas 1660 ft. Choate-Henshaw & Marland's Neal 1, sd 3302 ft.

TOM GREEN COUNTY—M. B. Bryant et al's Llano Fee 1, set 10 cas 1700 ft. Roxana Pet. Corp.'s L. T. Clark 1, dr 2675 ft. World Oil Co.'s Pulliam 1, materials.

HOWARD COUNTY — Owen-Sloan Oil Corp.'s Otis Chalk 1, sec 113, blk 29, elevation 2430 ft, flowing by small heads 31 gravity oil at 1577-86 feet. Choate-Henshaw & Marland's O'Daniel 1, sd 3103 ft. Transcontinental Oil Co.'s Ora Roberts 1, dr 1820 ft.

IRION COUNTY—Oklavania Oil Co.'s Sawyer 1, sd 2268 ft. P. H. Williams et al's Ashe Bros. 1, dr 760 ft.

JONES COUNTY — Shaw-Rathke et al's Wm. Bristow 1, sd 455 ft.

KENT COUNTY—The Texas Co.'s Barron 1, sd 2960 ft.

LYNN COUNTY—Hart Oil Corp.'s C. O. Edwards 1, ur 12½ cas 428 ft.

MITCHELL COUNTY—Atlantic Oil Prod. Co.'s Adams 5, spd and sd. The California Co.'s C. M. Adams 3-A, rig; Adams 2-B, dr 2770 ft; Adams 1-C, rig; W. L. Foster 1, rig; Petifils 1-A, rig; Womack 4, set 6⅝ cas 2871 ft; Womack 5, dr 1710 ft. B. H. Cogdell et al's McKenzie 1, spd and sd. Eastland Oil Co. & Gulf's J. J. Handley 1, sd for shot 3089 ft. Mid-Kansas O. & G. Co.'s Ellwood 1, dr 2995 ft. Magnolia Pet. Co.'s Mary Foster 2, rig; A. P. Watson 1, dr 2225 ft; L. Coleman 1, dr 3265 ft; C. M. Adams 4, rig; Adams 5, lcn; Abrams 1, dr 2580 ft. Owen-Sloan Oil Corp.'s C. P. Conway 1, lcn. Waterbury et al's Ellwood 1, lcn.

PECOS COUNTY—Dixie Oil Co.'s Hersheusen 1, dr 4150 ft. Carl Cromwell & Kimberlin et al's Scharff-Blackman 1, lcn. Lloyd-Miller et al's Bonebrake 1, lcn. Levi Smith et al's Devlin 1, sd 815 ft. Transcontinental Oil Co.'s Perry 1, sd 2895 ft. Trans-Pecos Oil Co.'s Bennett 2, fsh 1045 ft.

PRESIDIO COUNTY—Hadlock-Miller (was Claude Byler) et al's Tootle 1, fsh cas 2204 ft.

REAGAN COUNTY—H. D. Camp et al's University 1, sd 1050 ft. Marland Oil Co. & J. A. Mascho's Sawyer 1, sd for 15½ cas 480 ft. Marland & F. P. Zoch's Talley 1, elevation 2613 ft, top salt 1060 ft, sd repairs 2430 ft. Ben Simon et al's R. A. Walters 1, sd 325 ft. L. V. Tannehill et al's University 1, dr 3155 ft. The Texas Co.'s J. D. Sugg 1, elevation 2621 ft, top salt 868 ft, top lime 2080 ft, sulphur water 2675 ft, dr hole full water 2720 ft.

REEVES COUNTY—Bell-Regan et al's TP Fee 1, lcn. Grisham-Hunter Corp.'s State Fee 1, lcn. Humble O. & R. Co.'s TP Fee 1, dr 1495 ft. Schooler-Slack et al's TP Fee 1, sd 540 ft. World Oil Co.'s TP Fee 1, dr 3325 ft.

SCHLEICHER COUNTY — Beavers-Heath et al's Whitten 1, lcn.

SCURRY COUNTY—E. E. Fogelson et al's Bryce 1, sd 1905 ft. Northwest Co.'s H. P. Welborn 1-A, making three million ft non-inflammable gas 1290 ft, dr 1555 ft.

STONEWALL COUNTY — Arkansas Fuel Oil Co.'s Craft 1, set 6⅝ cas 3440 ft. Swenson Oil Corp.'s Ward 1, sd 3605 ft.

STERLING COUNTY—The California Co.'s J. T. Davis 1, rig. Co-Operative Dev. Co.'s E. W. Douthitt 1-A, sd 2675 ft. Chicago-Texas O. & G. Co.'s Durham 1, sd 3502 ft. Deep Rock Oil Co.'s L. T. Clark 1, sd 1850 ft. The Exploration Co.'s C. A. Broome 1, lcn. G. M. Richardson et al's J. S. Johnson 1, lcn abn. H D. Rummel et al's L. T. Clark 2, set 6⅝ cas 1020 ft. C. J. Wrightsman et al's Collins 1, dr 2475 ft.

SUTTON COUNTY—Chesapeake Oil Co.'s Clarkson-Allison 1, dr gray lime 2085 ft.

TAYLOR COUNTY—Sanger O. & R. Co.'s Norwood 1, dr 2105 ft.

TERRELL COUNTY—E. T. Williams et al's Sowden 1, sd with crooked hole 110 ft.

UPTON COUNTY—Big Mesa Oil Co.'s University 1, sd 3293 ft. Choate-Henshaw & Marland's Noelke 1, sec 20, flowing sulphur water 2305 ft. Dixie Oil Co.'s E. S. Hughes 1, elevation 2501 ft, top salt 430 ft, dr 830 ft; Burleson 1, preparing to pump with 350 ft of oil in hole after shot 35 qts, 2185-91 ft, td 2230 ft; Burleson 3, lcn. W. W. Donnelly & L. E. Hults' H. M. Halff 1, sd 3250 ft. Eastland Oil Co. & Johnson-McCamey's E. S. Hughes 1, sec 12, dk. Gulf Prod. Co.'s M. L. Baker 1, dk. Marland Oil Co.'s Sanger 2, swabbed 35 bbls oil 2180-2225 ft; Burleson 1, lcn; Burleson 2, elevation 2615 ft, top salt 555 ft; set 8¼ cas 2002 ft; Burleson 3, top salt 535 ft, flowed 25 bbl head oil 2065-2111 ft; Benton 1, sec 1, elevation 2495 ft, top salt 540 ft, top lime 2110 ft, dr with 50 ft oil in hole 2214 ft. Plateau Oil Co. et al's Union 1, sec 34, dr 2865 ft. Republic & Marland's Baker 2, spudding. Sartain Bros. & Davis' Mrs. G. V. Bull 1, lcn. The Texas Co.'s Union 1, set 8¼ cas 2220 ft. F. P. Zoch & Marland's Union 1, sec 4, dr 3130 ft. Tidal Oil Co.'s Union 1, sec 2, dr 450 ft.

WARD COUNTY—Chesapeake Oil Co.'s Edgar J. Marston 1, elevation 2535 ft, top salt 825 ft, dr 3100 ft. Gulf Prod. Co.'s Hutchings 1, set 5-3/16 cas 4440 ft.

WINKLER COUNTY—R. A. Westbrook & Co.'s T. G. Hendricks 1, dr 850 ft. Lou D. Ladd et al's T. W. Amburgey 1, lcn.

Texas Panhandle District

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Carson County—		
B. S. Barnes et al Burnett 1	*	1150
Culberson Bros. & Co. S. B. Burnett 1	¶75	2790
Collingsworth County—		
Continental Oil Co. Hughes 1	*	3507
Hutchinson County—		
Pattison-Lenix Oil Co. Smith 1	5800	3005
Prairie & TP Coal & Oil Co. Johnson 1	15	3060
Potter County—		
Amarillo Oil Co. Lee Bivins 4-A	¶3¾	2895

DRILLING REPORT

CARSON COUNTY — Amarillo Oil Co.'s Bivins 3-B, making 25 million ft gas and spraying 25 bbls oil, 3066 ft. Amatex Dev. Co.'s Polling 1, rotary rig. American Ref. Co.'s S. B. Burnet 6, dr 2320 ft; Burnett 7, rig. Gates Oil Co.'s Burnett 2, sd 2957 ft. Gulf Prod. Co.'s Burnett 10, set 6⅝-inch cas 2884 ft; Burnett 1, fsh bailer 1850 ft; Burnett 12, rig. Magnolia Pet. Co.'s Burnett 2, set 10-inch cas 2045 ft; Burnett 3, lcn. Marland Oil Co.'s Burnett 5, dr 1565 ft; Burnett 1-B, set 8¼-inch cas 2835 ft, dr 2845 ft. McFarland & Thomas' G. W. Witter 1, dr 300 ft. The Texas Co.'s M. C. Burnett 4, co after shot 2897 ft; Burnett 8, rig. Young & Patrick's McConnell 1, dr 695 ft.

COLLINGSWORTH COUNTY—Continental Oil Co.'s Hughes 1, plugging 3507 ft.

COTTLE COUNTY—National Potash Co.'s Dulaney 2, sd 1840 ft.

DICKENS COUNTY—R. D. Clancy & English's Jones 1, dk in section 311, H&GN sur, blk. 1.

GRAY COUNTY—C. H. Clark et al's Merten Bros. 1, dr 2245 ft. Empire's H. Heithott

1, spraying 15 bbls oil 3258 ft. Jack Greenwood et al's H. B. Lovett 1, lcn. The Texas Co.'s G. H. Saunders 2, dr 2190 ft; W. J. Brown 1, dr lime 3055 ft. H. F. Wilcox O. & G. Co.'s Coombs-Worley 2, dr 2250 ft; Worley-Reynolds 3, dr 2015 ft.

HARTLEY COUNTY—Marland Oil Co.'s Shelton 1, lcn.

HUTCHINSON COUNTY — American Ref. Co.'s J. A. Whittenburg 1, putting on pump after shot 2775-2808 ft. Apex Oil Co.'s Smith 1, dr 1630 ft. Badger Oil Co.'s Tom Lewis 1, set 5 3/16-inch cas with 1550 ft oih 2900-15 ft. Bear Creek Oil Co.'s E. E. Watkins 1, rig. Big Creek Oil Co.'s Merchant 1, rig. Canadian River Oil Co.'s Kingsland 2, dr 1730 ft; Kingsland 3, dr 1540 ft; Kingsland 4, dr 650 ft. Canyon Oil Co.'s J. A. Whittenburg 1, making 15 million ft gas, dr 2720 ft; Whittenburg 2, making 10 million ft gas, dr 2740 ft. Center Dome Oil Co.'s Pritchard 1, dr 380 ft. Walter Cline & Douglas Oil Co.'s J. A. Whittenburg 1, cavey hole 800 ft. Coble-Whittenburg Oil Co.'s J. A. Whittenburg 1, dr 1290 ft; Whittenburg 2, dr 1500 ft; Whittenburg 3, spudding; Whittenburg 4, rig. Cockrell-McElroy Oil Co.'s Smith 1, dr 2085 ft; Smith 2, dr 1600 ft. Currie Bros. & J. R. Phillips' Smith 1, fsh tools in oil pay 2930 ft. Derby Oil Co.'s Johnson 1, spudding. Dixon Creek Oil Co.'s Smith 3, bldg burned rig 2100 ft; Smith 4, set 10-inch cas 2101 ft; Smith 5, spudding; Smith 6, dr 350 ft; Smith 7, dr 810 ft; Smith 11, 12 13, 14 and 15, dks; Smith 18, dr 470 ft; Smith 21, dr 530 ft; Smith 29, set 10-inch cas 600 ft. Double Five Oil Co.'s E. Cockrell 1, spudding. J. B. Dunnigan et al's J. A. Whittenburg 1, sd for shot with 2400 ft oih 2983-3017 ft. Drysdale Oil Co.'s Weatherly 1, sd 3172 ft. Lee Flowers & Marland Oil Co.'s Carver 1, lcn. Fly-Blackburn Oil Co.'s Weatherly 1, dr 2275 ft. Gates Oil Co.'s Kinglsand 1-A, set 6⅝-inch cas 2860 ft; Kingsland 2, set 6⅝-inch cas 2880 ft, dr 2960 ft; Kingsland 3, dr 360 ft; Kingsland 4, dr 1010 ft. Gibson Oil Corp.'s Kingsland 1, spudding; Kingsland 5, rig; Johnson 1, dr 780 ft. Gibson Oil Corp. et al's Kingsland 1, ur 10-inch cas 2390 ft. Golding & J. R. Phillips' J. T. Hodge 1, set 8¼-inch cas 2700 ft. Gulf Prod. Co.'s J. M. Sanford 1-B, dk; J. A. Whittenburg 2, dr 2420 ft. Gulf-Cline & Panhandle Ref. Co.'s Dial et al 6, dr 2705 ft; Dial et al 7, dr 90 ft; Dial et al 8, dr 2310 ft; Dial et al 9, spudding; J. A. Whittenburg 1-B, dr 380 ft. W. Scott Heywood et al's E. Cockrell 1 dr 2725 ft. W. Scott Heywood's W. S. Christian 1 and 2, lcns. W. H. Holmes et al's Smith 1, spraying 195 bbls oil 2718-52 ft, dr 2754 ft. Inspiration Oil Co.'s E. Thompson 1, spudding. Dan A. Japhet et al's Smith 1, dr 185 ft. J. H. Lenix et al's Johnson 1, dr cave 1350 ft. Lucky Ten Oil Co.'s Smith 1, fsh 1600 ft. Marland Oil Co.'s River Bed 1, driving piling; Johnson 1, dk. McElroy & Herring's Smith 2, dr 2260 ft. S. D. & W. W. McElroy's Smith 1, 2 and 3, rigs. McElroy Oil Co.'s Smith 3, set 6⅝-inch cas 2780 ft. McMan O. & G. Co.'s Johnson 1, sd with col cas 800 ft; Smith 1, dr 320 ft; Smith 2, dr 630 ft; Smith 3, dr 1970 ft; J. H. Middleton et al's Smith 1, dr 480 ft; Smith 2, dr 630 ft. Mid-West Exploration Co.'s Johnson 1, lcn. Mid-West & W. H. Holmes' Smith 1, dr 1440 ft; Smith 2, dr 1160 ft; Smith 3, rig. A. D. Morton et al's Johnson 1, dr 1865 ft. Native Oil Co.'s Johnson 2 and 3, lcns. Newby Oil Co.'s E. Cockrell 2, lcn. New Domain Oil & Gas Co.'s Kingsland 1, dr 1260 ft; Kingsland 2, rig. Pattison-Lenix Oil Co.'s Smith 1, flowed 1580 barrels oil first 7 hrs after shot 505 qts, 2910-95 ft. J. R. Phillips & Heywood's Smith 1, dr 2115 ft. Phillips Pet. Co.-Coble's J. A. Whittenburg 2, flowing 300 bbls 2907-25 ft; Whittenburg 3, dr 2495 ft; Whittenburg 4, set 12½-inch cas 710 ft; Whittenburg 5, dr 415 ft; Whittenburg 6, 7 and 8, rigs. Phillips Pet. Co.'s J. A. Whittenburg 1, sd making 15 million ft gas 2890 ft; Whittenburg 2, dr 2910 ft; Whittenburg 3, rig; Johnson-Barnum 1, set 15½-inch cas 280 ft; Johnson-Finklea 1, fsh tools 280 ft; Whittenburg-Parks 1, rig; Whittenburg-Parks 2, changing to company tools 2755 ft; Whittenburg-Mary Huff 1, spd and sd; Whittenburg-Mary Huff 2 and 3, rigs. Phillips Pet. Co. & Gibson Corp.'s Whittenburg-Whitley 1, dr 565 ft; Whittenburg (Sec. 63) 2, lcn; McMillen-Whittenburg 1, flowed 240 bbls initial, changing to company tools 2885-93 ft, td 2914 ft. Phillips Pet. Co. & Pulaski Oil Co.'s Whittenburg (Sec. 12) 1, set 8¼-inch cas 2095 ft; Smith 1-A, sd 1890 ft; Smith 3, sd for shot with 600 ft oih 2814-62 ft; Smith 4, sd 2789 ft; Johnson 1, dr 2760 ft; E. Cockrell 1, fsh 2330 ft. Phillips Pet. Co. et al's Johnson 1, sd for 5 3/16-inch cas 2953 ft. Prairie O. & G. Co.'s Weatherly 2, dr 2895 ft; Johnson 1, rig. W. R. Ramsey et al's Johnson 1, making 40 million ft gas 2672 ft. Relief Oil Co.'s Smith 1, dr 780 ft. Henry Riley & W. H. Holmes' Smith 1, rig. Roxana Pet. Corp.'s Smith 2, dr 2710 ft; Smith 3, set 10-inch cas 2117 ft; Smith 1-B, dr 1910 ft; Smith 2-B, dr 1460 ft; Lee Bivins 1, set 15½-inch cas 750 ft. Skelly Oil Co.'s Johnson 1, set 8¼-inch cas 2204 ft; Johnson 1-A, dr 1100 ft; Johnson 2-A and 3-A, rigs. Whittenburg 2, dr 2885 ft; Whittenburg 3, spudding; Whittenburg 4, swabbed 125 bbls oil in 16 hours after shot 2891-2911 ft; Whittenburg 5, rig. Skia-Tex Pet. Co.'s (was J. R. Phillips) Kingsland 3, rig; Kingsland 4, dr 360 ft; Kingsland 5, dk. J. L. Smith's Smith 1, dr 370 ft; Smith 2, dk; 3 and 4, lcns. J. L. Smith & Bynum's J. A. Whittenburg 1, flowing 90 barrels oil, dr 2935 ft. Smith & Willbank's Wm. Lyal 1, rig. Spring Creek Oil Co.'s Smith 1, set 6⅝-inch cas 2652 ft. Summit Oil Co.'s Whittenburg 1, fsh tools in oil pay 2932-89 ft; Whittenburg 2, spudding. Sunny Jim Oil Co.'s (was Jack Crosbie et al) Whittenburg 2, spudding. J. A. Swindler & Son's E. Cockrell 1, rig. The Texas Co.'s E. Cooper 1, dr lime 3090 ft; Burnett 7, fsh 700 ft. Travelers Oil Co.'s Kingsland 2, rig. Triangle Oil Co.'s Smith 1, ur 8¼-inch cas 2480 ft. Tex-O Oil Co.'s Johnson 1, rig burned, td 2735 ft. Twin-Six Oil Co.'s Kingsland 2-A, dr 1530 ft; Kingsland 3, cas trouble 503 ft; Kingsland 4, fsh tools 2760 ft; Kingsland 5, dr 1450 ft. J. D. Ward et al's E. Cockrell 1, dr 2810 ft. Western Oil Dev. Co.'s Jarvis 1, rig. White Eagle O. & R. Co. et al's Smith 1, flowing 315 bbls 2822-32 ft, td 2867 ft; Smith 2, dr 1310 ft; Smith 3, set 10-inch cas 1950 ft; Smith 4, dk; Johnson 1, dr 2560 ft; Whittenburg 1, dr 440 ft.

MOORE COUNTY—M. Cadman-Martin et al's Sneed 1, rig. Clark, Harbin & Baldridge's O. E. Gober 1, lcn. Lee Flowers & Marland Oil Co.'s Sneed 1, probably junked in quicksand 250 ft. Moore County Oil Co.'s Sneed 1, cas trouble 530 ft. Morton & Co.'s H. C. Rubert 1, lcn. Phillips Pet. Co.'s (was Landreth) Sneed 1, fsh bit 420 ft.

POTTER COUNTY—Farmers O. & G. Co.'s J. A. Jones 1, lcn. Prairie O. & G. Co.'s Bivins 1, fsh tools in granite 3500 ft.

ROBERTS COUNTY—Phil Engle et al's Lederick 1, sd 4020 ft. W. M. Shriner et al's T. S. Jones 1, lcn.

SHERMAN COUNTY — Eclipse Oil Co.'s Lee Bivins 1, rig. Get Oil Co.'s Bivins 1, rig.

WHEELER COUNTY—Gibson Oil Corp. et al's H. C. Phillips 2, rig; Phillips 3, dk. Mid-West Exploration Co.'s G. W. Porter 1, ur 8¼-inch cas 1560 ft. McFarland & Thomas' Kachelhoffer 1, sd in granite 2365 ft. Hal Vaughan et al's O'Gorman 1, dr 565 ft.

Coastal Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Goliad County—		
Houston Oil Co.'s Pettus 1.....	*	3461
Harris County—		
The Texas Co.'s Warren 6	*	3575
Warren 7	*	1602
Refugio County—		
Houston Oil Co.'s O'Connor 1....	*	3496
Wharton County—		
Oxford Oil Co.'s Floyd 2.....2000		2957
The Texas Co.'s Taylor 7.....5300		3875

DRILLING REPORT

BRAZORIA COUNTY—Roxana Pet. Corp.'s Clemens 1, S 78 degrees E and 12,903 ft from NW corner John McNeel league, fish 4518 ft; Allen 2, 1741 ft E of No. 1, Sterling McNeel tract, rigging with steam equipment, 4518 ft. Rycade Oil Corp.'s Nash 6, 500 ft and 45 degrees SW No. 5, lot 2 of W. R. Nash 200 acres, dr 3293 ft sand; Nash 7, 1600 ft E of W line and 200 ft S of N line of W. R. Nash 200 acres, dr 3980 ft shale; Wisdom 2, 400 ft E and 2000 ft S of No. 1, dr 3801 ft sand and shale; Wisdom 6, 600 ft NE of No. 4, dr 1639 ft hard lime.

COLORADO COUNTY—R. C. Timms et al's Drumgould 1, on H. A. Cutler lease, sec 11, near Eagle Lake, no report.

FORT BEND COUNTY — Rycade Oil Corp.'s Flessner 2, 325 ft N Nash 5 on D. Flessner 200 acres, coring sand 4037 ft; Flessner 3, 300 ft E of Flessner 2, dr 1272 ft, gumbo. Gulf Prod. Co.'s Moore 6, 84 varas to S and 2598 varas to E line, German Emig. No. 80, dr 2867 ft lime rock; Davis 8, 100 ft to N and W lines on G. Watson tract, dr 3552 ft sand; Davis 10, 200 ft N No. 9, dr 770 ft gyp rock. The Texas Co.'s Farmer 1, 1200 ft E and 100 ft S of NE cor J. R. Farmer tract, about 2¾ miles NE of Boling discovery well, lcn. Sun Co.'s Farmer 1, 350 ft N and 50 ft E SW cor Sun Co.'s 100 acres on R. M. Farmer tract NE Boling discovery well, lcn.

GALVESTON COUNTY—Gulf Prod. Co.'s Smith 5, 300 ft S No. 2 at High Island, dr 3018 ft sand rock; no show.

GOLIAD COUNTY—Houston Oil Co.'s Pettus 1, 10 miles W of Goliad, abn 3461 ft; Parks 1, 8 miles E of Goliad, dr 3230 ft.

GRIMES COUNTY—E. G. Johnson et al's Cuthrell 1, NW side of J. E. Cuthrell 110-acre tract, near Singleton, dk.

HARDIN COUNTY—Vacuum Oil Co.'s Teel 3, off Saratoga dome on R. Teel tract, dr 3127 ft. Rio Bravo Oil Co.'s Fountain 5, 850 ft N and 900 ft E of SW corner of J. O. Fountain 100 acres off Saratoga dome, fish 3820 ft. Humble O. & R. Co.'s Weise 2-A, 2 miles N of Strawn, dr 650 ft gumbo. Humphrey Oil Corp.'s Jackson 1, 25 ft N and 35 ft W of SE cor strip 28 Stephen Jackson League, near Sour Lake, dr 2222 ft sand and bldrs. Texas Little Farms Co.'s Hawley 1, Joel E. Hawley League, sd 2951 ft, gumbo. Sun Co.'s Libby 1, on Jackson tract at Sour Lake, lcn.

HARRIS COUNTY—The Texas Co.'s Warren 6, E. Ehrenberg survey, near Hockley, abn 3575 ft; No. 7, 700 ft NW No. 3, abn 1602 ft, gray sand. Rio Bravo Oil Co.'s Pierce Fee 2, 300 ft N and 75 ft E of No. 1, at Pierce Junction, dk.

JEFFERSON COUNTY — Yount-Lee Oil Co.'s McFadden 5, 300 ft W No. 4, lcn; Gladys City 4, 300 ft SE No. 3, lcn. Gulf Prod. Co.'s Burrell 1, 1000 ft E Thomas 5, near Fannette, dr 4170 ft; Bordages 2, Fannette, dr 2560 ft.

LIBERTY COUNTY — Humble O. & R. Co.'s Welder 1, South Dayton, dk.

MATAGORDA COUNTY — Rycade Oil Corp.'s Kountze 1, 1000 ft W and 800 ft N of SE cor blk 23, Henry Parker league, dr 3551 ft, gbo. Gulf Prod. Co.'s Craig 4, NE cor T. Williams sur on J. H. Craig 840 acres, dr 2100 ft; Sanborn 1, NE cor T. Williams sur, rigging up; Sheppard Mound Oil Co.'s Hawkins 2, on Hawkins Ranch, Sheppard Mound, sd 2980 ft.

REFUGIO COUNTY—Houston Oil Co.'s O'Connor 1, Tom O'Connor ranch, Hearn sur near Mission Bay, abn 3496 ft.

WASHINGTON COUNTY—S. H. Spangler et al's Regeine 1, 6 miles NW of Burton on Regeine farm, Sandtown district, sd 1200 ft.

WHARTON COUNTY—The Texas Co.'s Taylor 5, Boling, 200 ft SW No. 4, waiting on cutting tools, 3663 ft; Taylor 7, 200 ft SW No. 5, completed 5300 barrels, 3875 ft. Texas Co.'s Taylor 9, 163 ft S and 321 ft E of No. 3, lcn; Felder 1, 50 ft each way out of NE cor of Weems 100 acres, Boling dome, lcn; Floyd 1, M. S. Floyd 56-acre tract, dr 1936 ft gumbo and lime. Humble O. & R. Co.'s Hawes 6, offset to Vacuum's Hooper 2, dr 3694 ft lime rock. Vacuum Oil Co.'s Hooper 1, 50 ft from each line of NE corner of L. M. Hooper 100-acre tract, r 4280 ft, td 4537 ft; Hooper 100-acre tract, r 4280 ft, td 4357 ft; ft lime. Oxford Oil Co.'s Floyd 3, 230 ft S No. 2, oil showing 3520 ft. J. K. Hughes Dev. Co.'s Mullins 1, 350 ft to W line of Mullins 60-acre tract, dr 2822 ft sandy shale. Houston Gulf Gas Co.'s Woodfin 1, 5400 varas along NE line and 500 varas S at right angles with line in John Huff sur, washing to bottom, 699 ft. Gulf Prod. Co.'s Mick 1, 100 ft each way from NW cor G. C. Mick north

THE PUMP THAT WORKS

UPSIDE DOWN

NECO

It took a lot of nerve to break clear away from the formerly accepted design for pumps. It usually does take nerve to create any great advancement.

Neco Pumps represent a pumping principle so different that they were not, at first, greeted with open arms by the industry. Instead they created considerable skepticism. But that was so long ago we can talk and laugh about it now when at one time it was no laughing matter.

For those who do not know that Necos are radically different from other pumps we present these facts:

The *NECO* Pump

It seats on top of old working barrels and when properly seated is ready for use. For new wells tubing seats are supplied.

The barrel is the moving part of the pump, instead of the plunger, so that on the up stroke of the Pump the oil is drawn through the plunger pipe into the valve, and is discharged into the tubing on the down stroke.

The lower valve is at the top of the plunger, not at the bottom as in all other pumps. *This is the Neco exclusive feature* which combined with the position of the upper valve at the top of the barrel, gives the Neco Pump three big advantages over other types of pumps.

There isn't any space left to tell you what these are, but we'll be glad to send the full explanation of the exclusive *Neco Advantages* that are derived from the *exclusive Neco construction.*

Stocked by Oil Well Supply Company

Northrup Equipment Co.

Parkersburg, W. Va.

Fort Worth, Tex.
F. J. Ackman
Representative

Nowata, Okla.
H. T. Torner
Representative

Tret-O-litE

(Reg. U. S. Pat. Office)

PROCESS PATENTED. The Barnickel processes for treatment of cut oil and other petroleum emulsions by the use of chemical agents are protected by valid process patents issued by the United States and foreign countries.

The purchaser of TRET-O-LITE is licensed to practice the Barnickel processes to the extent permitted by the quantity of TRET-O-LITE purchased. He is not licensed to use any other chemical covered by the Barnickel patents, either alone or with TRET-O-LITE.

WM. S. BARNICKEL & CO.

ST. LOUIS, MO.

100 acres in Lovelock subdivision, dr 1030 ft hard sandy shale. Jas. Rich's Dennis 2, 30 ft from No. 1 and 5 miles W of Wharton, standing 1012 ft gumbo; Sorrel 1, on Sorrel 657 acres, Glen Flora road, dr 890 ft gumbo.

ST. MARTIN'S PARISH — Rycade Oil Corp.'s Atchafalaya 1, sec 18-9s-9e and 600 ft E of Gulf's No. 3, dr 447 ft.

ST. MARY'S PARISH—Rio Bravo Oil Co.'s Glenwild 1, on Glenwild 4500 acre plantation, 10-inch casing collapsed 300 ft, td 3150 ft.

San Antonio Wildcats

BROOKS COUNTY—Benedum et al No. 1 Wormeser Bros., dr.

CALDWELL COUNTY—Van Keuren Oil Co. No. 1 Ridout, dr. United North & South Oil Co. No. 1 Kelly, dr. Tiller dr. Gulf Prod. Co. No. 1 J. M. Cardwell, dr. Marland Oil Co No. 1 Alexander, spudded in.

DUVAL COUNTY—Mauer & Duggan No. 1 Hoffman, dr below 1069 ft. Associated Oil Co. No. 1 Sutherland, dr. Barkley, Meadows & Morgan No. 1 blk. 4, survey 10, set casing at 1741 ft. Humble Oil Co. No. 5 Walsh, taking core at 3825 ft. No. 4 Schalbert, dr at 3095 ft. Grayburg Oil Co. No. 1 Halff, dr at 3790 ft. J. K. Hughes Dev. Co. No. 1 Peters, dr at 3658 ft. Seagraves & Moody No. 1 Mesquite, dr. No. 1 Walsh, set liner, preparing to test; No. 1 Benavides, dr in; No. 2 Benavides, dr; No. 3 Benavides, dr; No. 4 Benavides, dr. Cintex Pet. Co. No. 3 Benavides, dr. Houston Oil Co. No. 2 Benavides, prod. 250 bbls at 1780 ft; No. 3 Benavides, prod. 250 bbls at 1780 ft; No. 4 Benavides, dr.

DEWITT COUNTY—Yoro Dev. Co. No. 2 Holzaphel, dr.

GUADALUPE COUNTY—Dunning & Armstrong No. 1 Dale, dr. Howell et al Louis Willman, dr. Smith-Payne-Bond No. 1 Duran, dr. Humble Oil & Ref. Co. No. 1 Wholfahrt, dr.

JIM WELLS COUNTY—Benedum No. 1 Gallagher, set surface casing.

JIM HOGG COUNTY—Rydal-Rycade Oil Co. No. 1 Allen, dr; No. 2 Theodoro Vella, dr; E. J. Braswell No. 1, dr. Beaucamp et al No. 1 Vela, dr. Benedum No 1 Wilbur Allen, dr 2000 ft, slight oil showing. Magnolia Pet. Co. No. 3 M. S. Bank, dr; No. 11 Bank, dr. Simms Oil Co. No 1 Palacious, dr; No. 1 Thompson, dr. Andrews Pet. Co. No. 1 S. M. Bank, dr. Bailey et al No. 1 Palacious, dr. O. W. Killam No. 34 Martinez, dr; No. 1 Holbein, dr; No. 1 Bob Hinnant, dr. K. & S. Corporation No. 28 Holbein, set casing; No. 1 Weber, setting liner. Houston Gulf Gas Co. No. 3, blk. 11, survey 291, set casing.

KARNES COUNTY—Earl B. Reynolds No. 1 Butler, bailing.

MEDINA COUNTY—Medina Oil Co. No. 3 Taylor, pumping 6 bbls at 270 ft; No. 4 Taylor, dr 300 ft; No. 1 Odem, spudded in; No. 2 Odem, dk; No. 1 Mott, dk. Golden West Oil Co. No. 1 Batot, dr 457 ft. Walsh et al No. 1 Saathoff, dr. Reager et al survey 117, dr 790 ft, slight oil showing. Grayburg Oil Co. No. 1 Ward, dr. Witherspoon Oil Co. No. 1 Nixon, dr. Patterson-Patterson No. 1 Longfield, dr. Gibson Oil Corporation No. 4 Viola Wilson, set casing. Rand et al No. 1, dr. Alamo Drilling & Leasing Co. No. 1 Groff, dr; No. 1 Ward, dr. Ina Oil Co. No. 2 Wilson set casing; No. 1 survey 746, rigging up. Knox, Barlow et al No. 1, survey 91, rigging up. Estham & Tarver No. 2 Viola Wilson, dr. Jacobs et al No. 1 Odem, dk; No. 1 Hagelin, rigging up. Plateau Oil Co. No. 1 V. H. Johnson, lcn; No. 1 Harrison, dr 660 ft. Kettle et al No. 2 Richter, dr below 200 ft; No. 1 Bendel, lcn. Buchanan et al No. 1 Odem, set casing. Arnett Oil Co. No. 3 Nixon, dr 960 ft. Dr. J. M. Cavender et al No. 1 Mott, fishing. California Medina No. 1 Rothe, dr. Henderson & Holden No. 1 Adams, set 6⅝-inch casing.

WILSON COUNTY—W. L. Brashear No. 1 Standish, dr 2760 ft in Edwards lime.

ZAPATA COUNTY—Texas Company No. 2 Jennings, dr 3966 ft, good oil and gas showing.

Southern California Wildcats

ARTESIA—A. Benson's No. 1, sd 5238 ft.

BELFLOWER—Calpetro Producers Synd.'s No. 1, sd 4420 ft. Calpetro Producers Synd.'s No. 2, sd 4774 ft.

BREA CANYON—Shell Co.'s Menchago 1, dr 2155 ft..

BURBANK—Jeffries-Overton's No. 1, sd 996 ft.

BIXBY HILLS—National Security's Orange 1, sd 5151 ft. Orange Co. Pet. Co.'s Orange 1, sd 2850 ft.

CHATSWORTH—Russell Pet. Co.'s Joughin 1, taken over by Superior Oil Co., sd.

CLAREMONT—Chas. H. Blair's No. 1, dr 960 ft.

EAGLE ROCK—Calwin Oil Co.'s No. 1, dr 5803 ft.

EL SEGUNDO—Ridger Synd.'s No. 1, sd 975 ft.

HAWTHORNE—Winwell Oil Co.'s No. 1, sd 5586 ft.

HYDE PARK—Marland Oil Co.'s Connolly 1, dr 4700 ft.

IRVINE—Canlny Oil Co.'s Irvine 1, sd 4247 ft.

KEYSTONE—W. E. Garner's Community 1, sd 685 ft.

LANCASTER—Rudd-Assmusen's No. 1, dr 1000 ft.

LA MIRADA—Union Oil Co.'s McNally 1, dr. 4800 ft.

MANHATTAN—Geo. W. Johnson's Martin 1, set surface pipe 15¼-inch at 650 ft. Julian Pet. Corp.'s Hellman 1, sd cementing at 741 ft. Standard Park No. 1, rig. Bardeen Oil Co.'s M. P. 2, will plug bottom.

MAYWOOD—Magnolia Pet. Synd.'s Tweedy 1, sd 4442 ft.

NEWHALL-SAUGUS—Marland Oil Co.'s Wickham, preparing to put on pumping production test. Amalgamated Oil Synd.'s Nash 2, sd 1060 ft. W. G. McAdoo Jr.'s No. 1, sd 1270 ft. Milham Exploration's Conroy 2, dr 4000 ft. W. W. Stabler's Castaic, sd. Temple-LeFevre's Castaic 1, sd. Union Oil Co.'s Saugus 1, rigging up 2970 ft. Will start drilling.

PACOIMA—W. O. Brubaker's No. 1, fsh 2600 ft.

PLAYA DEL REY—Milham Exploration Co.'s Playa Del Rey 2, dr 4450 ft.

SAN JOSE HILLS—Bardeen Oil Co.'s Didier 1, sd 4100 ft. Bardeen Oil Co.'s Didier 3, re-cementing 1904 ft. D. &. B. Oil Co.'s Amar 1, fsh 1570 ft.

SAN JUAN CAPISTRANO—A. P. & K. Synd.'s No. 1, cementing 3560 ft.

SAN PEDRO—San Pedro Pt. Fermin's No. 1, trying to get 6¼-inch cas out.

TELEGRAPH CANYON—Quadra Pet.'s M. J. M. 1, dr. 2100 ft.

VAN NUYS—Van Nuys Community Oil Co.'s 1, fsh 2935 ft.

RIVERSIDE COUNTY—Beaumont-Midway Synd.'s 1, fsh 5355 ft. Beaumont-Riverside's Martin 1, will abn 1266 ft. Corona Oil & Gas Test No. 1, partially rigged for rotary. Spindletop Oil Synd.'s No. 1, dr 2100 ft.

SAN BERNARDINO COUNTY—Arrowhead Dev. Co.'s No. 1, sd 1410 ft. Burgess-Goodale's Riggins 1, dr 2490 ft. Como Oil Co.'s Cajon 1, set 8¼-inch cas 780 ft. Dome of Chino Valley's M&C 1, sd 1945 ft. Del Rosa Oil Co.'s 1, sd 2460 ft. Hesperia Oil & Gas Co.'s 2, sd 3275 ft. Mahala Oil & Gas Co.'s 2, dr 4765 ft. showing oil. Victor Valley Landowner's No. 1, sd 1740 ft. Western Pacific Oil Co.'s No. 2, sd 3260 ft. Zenith Oil Co.'s 3, dr 360 ft.

Northern California Wildcats

ANTELOPE PLAINS—Marland Oil Co.'s Lazard 1, dr 2228 ft. Union Oil Co.'s M. & L. 1, dr 2410 ft.

BUTTONWILLOW—Mailham Exploration's Sisson 1, dr 2051 ft.

DELANO—Chanslor-Canfield's No. 1, dr out cemt. 3874 ft.

DEVILS DEN—Devils Den Prod. Co.'s No. 1, straightening hole at 200 ft. Marathon Oil Co.'s No. 1, dr 4320 ft. Robins Oil Co.'s No. 1, dr 1520 ft.

GOULD HILLS—Mendocino Midway's No. 1, dr 1000 ft.

ROSEDALE—A. G. Schwarz' No. 1, dr 960 ft.

SHALE HILLS—Big 8 Oil Co.'s No. 1, sd 945 ft. Browngold Oil Co.'s No. 1, sd 3945 ft. Robert Barry's No. 1, sd 350 ft. Shale Hills Oil Co.'s No. 1, sd 1400 ft.

TEMBLOR HILLS—Associated Oil Co.'s Henderson, sd 3148 ft. Belridge Oil Co.'s No. 1, sd cemt. 3091 ft. Hovey Hills Oil Co.'s 1, sd 2410 ft. Fortuna Oil Co.'s No. 1, redr 1250 ft. St. Helens Pet. Co.'s No. 1, sd 4578 ft.

WASCO—Main Oil Co.'s No. 1, redr 5304 ft; 2, sd 5276 ft; 3, rig; 4, material on ground.

EASTERN KERN COUNTY—Crusaders Oil Co.'s No. 1, dr 1972 ft; No. 1, dr 280 ft.

ELK HILLS—Interstate Oil Corp.'s No. 1, sd 5156 ft. Naval Reserve Co.'s No. 1, sd 3776 ft. North Elk Hills Co.'s No. 1, sd 4002 ft.

MT. POSO CREEK—G. & R. Buckner's No. 1, sd 410 ft. G. & R. Buckner's No 1, sd. Shell Co.'s Vedder 1, dr 1800 ft.

McKITTRICK FRONT—Barnsdall Oil Co.'s No. 1, sd 4459 ft. Goldman & Sons' No. 1, sd 3030 ft. Hall-Baker-Workman's No. 1, sd 1025 ft. Lacy-Esper Pet. Co.'s No. 1, dr 3115 ft. Ridge Oil Co.'s No. 1, dr out cement 2100 ft. Wellington Oil Co.'s No. 1, dr 250 ft. Sisson-Wisdom's No 2, fsh 200 ft.

SUNSET—Fresno-Sunmaid's No. 1, dr 4005 ft. King G. Gillette's No. 1, rigging rotary, setting boilers. Milham Exploration Co.'s No. 1, dr 608 ft.

CLOVIS—Crusaders Oil Co.'s No. 1, dr 3700 ft.

WARTHAM CANYON — Bald Mountain Drilling Co.'s No. 1, dr 75 ft.

HURON DISTRICT—Associated Oil Co.'s No. 1, dr 1770 ft.

KERMAN—Associated Oil Co.'s No. 1, sd recementing 5735 ft.

KETTLEMAN HILLS—Associated Oil Co.'s No. 1, sd 2043 ft. Bolsha Chica Oil Co.'s No. 1, bailed dry 1798 ft. Marland Oil Co.'s No 1, redr 5420 ft. South Coalinga Oil Co.'s No. 1, dr 425 ft.

VENTURA COUNTY — Alexander Drilling Co.'s No. 1, sd 1716 ft. Allemore-Reeves' No. 1, fsh 1831 ft. R. F. Bishop's No. 1, sd 150 ft. Henry R. Dabney's No. 1, dr to 1300 ft. repair roads. Ford-Chalmers' No. 1, dr 2120 ft. Hoyt S. Gale's No. 2, dr 2900 ft. Howard Gillette's Elkins 3, bldg rig. Gentry Corp.'s Camarillo 1, dr 890 ft. Hopper Canyon Oil Co.'s No. 1, dr 4325 ft. E. J. Miley's Casitas 2, bldg rig. Milham Exploration Co.'s No. 1, sd cemt. 3800 ft. Shell Co.'s Berlywood 1, dr 3155 ft. Sentinel Oil Co.'s No. 1, dr 250 ft. Sespe Oil Co.'s Smith 2, dr 3020 ft.

SANTA BARBARA COUNTY — Geo. F. Becker's Summerland 1, dr 1920 ft. Channel Oil & Dev. Co.'s No. 1, sd 4820 ft. Nugent Oil Co.'s Catlin 1-A, sd at 3548 ft.

SAN LUIS OBISPO COUNTY — Arroyo Grande Pet. Co.'s No. 1, so at 3750 ft. Barneyberg Oil Co.'s No. 1, dr 4120 ft. Carrissa Oil Co.'s No. 1, dr 1980 ft Portland Pet. Co.'s 1, sd 2270 ft.

MONTEREY COUNTY—Hennigan-Schwennigan's No. 1, sd cemt. 2210 ft. Harriman-Jones Oil Co.'s No. 1, fsh 4200 ft. Pyramid Oil Producers' No. 1, running 6¼-inch cas at 1853 ft.

TULARE COUNTY—R. H. Baker's No. 1, dr 2430 ft. Big 4 Oil Synd.'s No. 1, co 3970 ft.

YOLO COUNTY—San Martinez Oil Co.'s No. 1, dr 5840 ft.

Louisiana Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Claiborne Parish—		
Triangle Drilling Co. Meadows 1, 7-22-5	*	2535

DRILLING REPORT

BOSSIER PARISH—Arkansas Fuel Oil Co.'s Murray 1, 14-23-14, dr 2980 ft, Benton Synd.'s Bulkley 1, 9-20-13, sd 1182 ft. Collins & Woodley's Kilburn 1, 18-19-13, testing 2571 ft; L. & A. Oil Co. 1, 14-23-12, rig. Herndon at al's Burkhalter 1, 17-18-11, dr 130 ft. Square Deal Oil Co.'s Hale 1, 17-18-11, set 8-inch at 1227 ft.

CADDO PARISH—Arkansas Natural Gas Co.'s Lane 1, 13-21-15, dr 3050 ft. Dixie Oil Co.'s Jolley 1, 27-22-15, dr 3965 ft; Robertshaw 71, 14-21-15, dr 3290 ft. Fortuna Oil Co.'s Bradford 1, 23-21-15, fsh 2451 ft; Levee Board 2, 8-20-15, 1 mcf gas and 1000 bbls sw 4023 ft; Spell 1, 29-21-15, dr 2900 ft. Gulf Ref. Co.'s Byrd 1, 2-19-14, dr 725 ft; Muslow 1, 30-21-15, dr 2635 ft; Tyson 1, 14-21-15, dr 2985 ft. Ohio Oil Co.'s Ardis 1, 1-21-15, dr 4095 ft; E. K. Smith 18, 12-21-15, dr 3870 ft; E. K. Smith 19, 12-21-15, set 8-inch at 205 ft. D. C. Richardson's Youree-Randolph 3, 13-20-15, dr 1990 ft. The Texas Co.'s CML 42, 23-21-15, dr 3325 ft; Federal-Jeems Bayou B-1, 15-20-15, sw 4405 ft; to set 4½-inch cas.

CALDWELL PARISH—Chal Daniels et al's Lively 1, 6-12-4e, rig. Grant et al's Cruse 1, 6-11-4e, rig. Standard Drlg Co.'s Cruse 1, 30-11-4e, dk.

CLAIBORNE PARISH—Gilliland Oil Co.'s Taylor B-10, 14-23-8, dr 1100 ft. Standard Oil Co.'s Shaw 4, 19-21-8, dr 2085 ft. Triangle Drilling Co.'s Hollifield 1, 32-23-5, dk; Keen 1, 7-19-5, dr 4040 ft.

DE SOTO PARISH—Carnahan & Kyle's Hollingsworth 1, 24-12-11, set 10-inch at 147 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, dr 3560 ft. J. P. Evans et al's Sutherlin 1, 20-12-14, lcn. Dresser et al's Williamson 1, 29-15-14, dr 1250 ft. Magnolia Pet. Co.'s Bond 1, 27-12-11, set 4½-inch 2720 ft. A. H. Tarver's Mathews 1, 29-12-11, dk. Ulrey et al's Heard 1, 18-12-12, set 10-inch 133 ft. J. C. Walton's Harp 1, 36-12-11, lcn; Chaffraix 1, 25-12-11, bldg dk.

EVANGELINE PARISH—The Texas Co.'s Guillory 1, 36-3s-1w, lcn.

GRANT PARISH—Dowling & McCurry's Holmes 1, 20-9-1e, sw 1616 ft. Finn et al's Ball & Cody 1, 13-8-1w, dr 150 ft. Holmes et al's Swope 1, 18-19-2e, set 6-inch at 1600 ft. Hurdley et al's Ball 1, 32-7-1w, rig.

LINCOLN PARISH—Buckley & Palmer's Davis 1, 12-20-3w, sd 1900 ft. The Texas Co.'s Tremont Lumber Co. 1, 27-18-1w, dr 2650 ft.

MOREHOUSE PARISH—Boisseau et al's Sullivan 1, 11-21-7e, fsh 2545 ft.

NATCHITOCHES PARISH—J. E. Palmer's Edenborne 1, 4-11-6, lcn.

RAPIDES PARISH—Hincy & Mack's Barrow 1, 29-5-2e, sd 1250 ft. Wheelen et al's Lanier 1, 3-4-3e, sd 1300 ft.

SABINE PARISH—Emlet et al's Bowman-Hicks 5, 8-7-12, dr 3295 ft; Bowman-Hicks 7, 11-7-14, dr 65 ft; Sabine Lumber Co. 1, 8-7-13, dk pattern.

UNION PARISH—Arkansas Fuel Oil Co.'s Reeves 1, 14-20-1e, dr 2715 ft. Clark Creek Oil Co.'s Frost-Johnson 1, 18-23-1e, dr 1200 ft.

WEBSTER PARISH—Arkansas Fuel Oil Co.'s Miller 1, 30-23-9, dr 3075 ft. Doern et al's Bolinger 1, 9-22-11, rig. Fortuna Oil Co.'s Bible 1, 8-20-9, sw 4281 ft; to deepen. Humble O. & R. Co.'s Cox 1, 22-21-10, milling 4214 ft. Magnolia Pet. Co.'s Sexton 1, 32-23-9, dk. Ohio Oil Co.'s Cox 1, 23-21-10, fsh 4829 ft.

Smitherman & McDonald's Oakley 1, 29-23-11, set 6-inch 3080 ft.

WINN PARISH—Cedar Creek Pet. Co.'s Sullivan 1, 6-10-2w, dr 1345 ft. Cherokee Pet. Co.'s Louisiana-Central Lumber 1, 12-11-2e, sd 1457 ft. Wilson et al's Louisiana-Central 1, 24-13-1e, dr 300 ft. J. R. Hale's Eagle 1, 6-10-2w, sd 950 ft.

Arkansas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Columbia County—		
Phillips Pet. Co.'s Davis 1, 14-18-21	*	2860
La Fayette County—		
Humble O. & R. Co.'s Bodcau Fee 3, 19-16-23 . .	*	1350
Ken-Saw Pet. Co.'s Red River Lumber Co. 2, 3-20-24	*	2820
Miller County—		
Copeland et al's Wiseman 1, 36-15-27 . . .	*	2650
Ouachita County—		
Harrell et al's Moline Timber Co. 1, 32-11-17 . . .	*	1178

DRILLING REPORT

ASHLEY COUNTY—Pine Prairie Oil Co.'s Pine Prairie 2, 1-17-6, dk. Rhodes et al's Bledsoe 1, 20-15-7, sd 2554 ft.

CALHOUN COUNTY—Magnolia Pet. Co.'s Calion 1, 29-15-14, dr 4275 ft. Southern Crude Oil Purch. Co.'s Calion 1, 1-16-14, set 12½-inch at 420 ft.

CLARK COUNTY—Heath et al's Arnold 1, 12-9-20, sd 600 ft. Wheelen Oil Co.'s Brown 1, 35-10-20, dr 2225 ft.

CLEVELAND COUNTY—Dedman et al's Moore 1, 28-9-10, sd 1757 ft.

COLUMBIA COUNTY—H. W. Aarnes' Brown 2, 13-15-20, set 6-inch 3295 ft. Gordon-Folwell-Dickson Synd.'s Jones 1, 36-15-20, dk. Kent & Fullenwider's Wingfield-Moody 1, 18-19-19, dr 160 ft. Ky-Ark Pet. Co.'s Doss 1, 29-19-20, sd 2079 ft. Pluto Oil Co.'s Robinson 2, 23-18-23, sd 1000 ft.

DALLAS COUNTY—McNeil et al's Owens 1, 29-10-16, sd 2100 ft.

DREW COUNTY—McClintock et al's Ogle 1, 35-13-5, sd 1842 ft.

HEMPSTEAD COUNTY — Burton et al's Garland 1, 23-10-25, sd 1865 ft.

LA FAYETTE COUNTY—Arkansas Fuel Oil Co.'s Red River 3, 7-19-24, fsh 2640 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 2-13-29, sd 2932 ft.

MILLER COUNTY—Lenze et al's Dale 1, 25-15-26, dr 1350 ft.

NEVADA COUNTY—Greeson et al's Tidwell 1, 22-13-21, sd 1200 ft.

OUACHITA COUNTY—Buffalo Oil Co.'s Davis 2, 22-15-19, wosr 1556 ft. El Dorado Union Oil Co.'s Hall 1, 3-15-19, dr 1120 ft. Gossett et al's Cosden 1, 21-15-19, wosr 1470 ft; Thompson 1, 22-15-19, dr 1480 ft. Harrell et al's Moline Timber 2, 32-11-17, dk. Magnolia Pet. Co.'s Watson 1, 31-15-19, dr 1750 ft. Van Diver et al's Yarbrough 1, 22-14-17, sd 1600 ft. J. D. Reynold's Davis 1, 22-15-19, plugging back to 1512 ft.

UNION COUNTY—Bondurant et al's Garner 1, 8-18-12, sd 1820 ft. Wingfield et al's Cruse 1, 27-17-16, dr 2926 ft.

Rocky Mountain Wildcats

WYOMING—Producers & Refiners Corp.'s No. 1, St. Mary's, sec 9-21-84, dr 805 ft; No. 1, Sugar Creek, sec 36-22-86, 6-inch cas 2205 ft; No. 14, Simpson Ridge, sec 20-21-80, dr 200 ft. Ohio Oil Co.'s No. 2, Byron, sec 33-56-98, sd 1860 ft; No. 3T, Hidden Dome, sec 31-48-90, co 2525 ft. Union Oil Co.'s No. 1, Fremont County, sec 10-28-92, sd 2304 ft. No. 1B, Lake Creek, sec 28-43-91, crooked hole 1098 ft. No. 1C, Fremont County, sec 15-5-1, temporarily sd, 1580 ft. Prairie Oil & Gas Co.'s No. 1 Buffalo Basin, sec 7-27-95, sd 2465 ft; No. 2B, Buffalo Basin, sec 17-27-93, sd 1695 ft; No. 1 Buffalo Basin, sec 19-27-95, sd 510 ft; No. 2, Belle Springs, sec 6-33-89, sd 2561 ft; No. 1H, Gooseberry, sec 32-47-100, dr 3115 ft. Myrta Bonnett's No. 1, La Barge, sec 26-27-113, abn 240 ft; No. 1X, La Barge, 26-27-13, dr 660 ft. Uinta Oil Co.'s No. 1, La Barge, sec 4-26-113, sd 506 ft. Big Piney Oil Co.'s No. 1, La Barge, sec 22-26-113, sd 721 ft. Beneficial Oil Co.'s No. 5, La Barge, sec 27-27-113, sd 530 ft; No. 6, La Barge, sec 34-27-113, sd 406 ft. Platte River Drilling Co.'s No. 1, Guernsey, sec 12-28-67, dr 2900 ft. Mountain States Pet. Co.'s No. 1, Gebo Dome, sec 23-44-95, dr 2828 ft. Midwest Refining Co.'s No. 36X, Dry Piney, sec 1-28-114, abn 4000 ft. Crystal Creek Syndicate's No. 1, Crystal Creek, sec 19-54-93, dr 800 ft.

MONTANA—Prairie Oil & Gas Co.'s No. 1, Mifflin Dome, sec 18-2-29, dr 3130 ft. Consolidated Oil & Gas Co.'s No. 1, Dean Anticline, sec 13-6-17, dr 2282 ft. California Co.'s No. 1, Bowes Dome, sec 9-31-19, dr 3802 ft. Montana Co.'s No. 1, Bowes Dome, sec 4-31-19, gas 1002 ft; No. 2, Bowes Dome, sec 4-32-19, gas 1075 ft; No. 3, Bowes Dome, rig up. Allen Oil Co.'s No. 1, Benton Lake, sec 34-23-2, sd 1380 ft. California Co.'s No. 1, Armells structure, sec 4-17-20, sd 1800 ft; No. 2, Armells Structure, sec 16-18-19, abn 2648 ft; No. 3, Armells Structure, sec 3-17-20, sd 1602 ft.

COLORADO—Mountain States Oil Co.'s No. 1F, Las Animas County, sec 4-34-62, dr 2440 ft. Christy Oil Co.'s No. 1, El Paso County, sec 17-17-64, to resume dr 2949 ft. A. A. Rollerstone Co.'s No. 1B, Larimer County, sec 6-10-69, fsh 1553 ft; No. 1D, Arapahoe County, sec 1-5-65, fsh 1478 ft. Gypsy Oil Co.'s No. 1, Mesa County, sec 9-9-101, abn 3784 ft; No. 1, Garfield County, sec 5-8-102, to resume dr 3160 ft. Midwest Ref. Co.'s No. 1R, Rio Blanco County, sec 30-2-102, preparing to drill deeper. Texas Prod. Co.'s No. 1E, Rio Blanco County, sec 30-2-102, fsh 3035 ft. Mineral Exploration Co.'s No. 1, Kiowa County, sec 31-18-51, dr 1220 ft. Union Oil Co.'s No. 1T-UP, sec 1-9-69, abn 3550 ft. Red Creek Oil Co.'s No. 1JJ, El Paso County, dr 2325 ft. E. J. Miley's No. 1H, La Plata County, sec 32-33-12, sp, Chesapeake Oil Co.'s No. 1J, sec 30-27-45, fsh 3998 ft.

UTAH—Marland Oil Co.'s No. 1C, Green River, sec 35-21-16, sr 2610 ft. Embar Oil Co.'s No. 1BS, sec 34-25-21, dr 2850 ft. Charles Orchard's No. 1, Grand County, sec 4-19-25, dr 100 ft.

NEW MEXICO—H. L. Williams' No. 4, San Juan County, sec 30-30-13, dr 2025 ft. Maljamar Oil & Gas Co.'s No. 1 Lea County, sec 21-17-32, cas below 300 ft; No. 1GM, Lea County, sec 5-17-32, dr 350 ft; No. 1SB, Lea County, sec 15-17-32, lcn; No. 1P, Lea County, sec 33-17-32, dr 325 ft; No. 1 B Lea County, sec 21-17-32, 19 million cu ft gas at 3132 ft. Murray Oil Co.'s No. 1W, Eddy County, sec 9-17-23. Snowden & McSweeney's No. 1, Eddy County, sec. 4-21-30, abn 4400 ft. Colorado Gas & Fuel Co.'s No. 1, Chaves County, sec 16-8-27, dr 4835 ft. White Oil Co.'s No. 1F, Chaves County, sec 25-10-26, sd temporarily. Congress Oil Co.'s No. 1G, San Juan County, sec 34-29-11, cas 1020 ft. Marland Oil Co.'s No. 1, San Miguel County, sec 3-13-29, sd 3971 ft. Continental Oil Co.'s No. 1, Rio Arriba County, sec 25-24-1, abn 3055 ft; No. 6, sec 10-27-17, water 1331 ft.

Oklahoma Wildcats

ATOKA COUNTY—Hansen et al, Dabney 1, C SE NE 17-4-11, sd 3845 ft.

BECKHAM COUNTY—W. R. Duke's McGee 1, NWc SW SE 25-8-22, 8-inch cas at 950 ft.

BLAINE COUNTY—Okama Oil Co.'s Eklemeir 1, SWc 21-15-10, sd 2610 ft.

CADDO COUNTY—Continental Diamond's Funk 1, SE SE 1-5-9, bldg rig.

CANADIAN COUNTY — Thos. Revelle's Dawson 1, NEc SE NW 34-13-9, ur 5-inch 3680 ft. O. D. Jones' Sanders 1, C NE NE NE 29-11-7, sd 2150 ft.

COMANCHE COUNTY—Daisy Belle Oil Co.'s Warehime 1, C SW SW SW 25-4-9, tools away. Mid-Kansas O. & G. Co.'s Hendricks 1, C S L SE 33-3-10, sd 1812 ft. Becker & Reed's Hind 1, NEc NW 30-4-10, fsh 1850 ft. J. R. Abernathy's No. 1, NEc NW 24-5-11, lcn. Mid-Kansas O. & G. Co.'s Cox 1, NEc SE NE 30-1-13, 8¼-inch cas 1281 ft.

GARFIELD COUNTY — Haley, Garber & Pulse's Chevelier 1, NWc SW 6-23-4, dr 174[illegible] ft. Shaffer & Amerada's Brunken 1, NEc 3[illegible] 24-4, 10-inch 2020 ft. Sinclair O. & G. Co.'s Fee 1, SWc SW NE 2-20-5, dr 3459 ft. Wilcox O. & G. Co.'s Zalondek 1, C SE SE SE 22-24-6, 10-inch cas 2020 ft.

GRADY COUNTY—Becker-Reed Oil Co.'s Brown 1, C NW NE 29-6-7, 10-inch cas 2046 ft.

GRANT COUNTY—Dedman, Flannagan & Hennage's Sherrer 1, NEc SW 16-26-3, sd 51[illegible] ft. Lambert & Mink's Tabor 1, C SE NE SE 23-26-3, spudded and sd. Gypsy Oil Co.'s Meugge 1, SEc NW 33-26-3, dr 3512 ft. Marland Oil Co.'s Webb 1, C NW NE NE 2-27-3, fsh 4200 ft.

HUGHES COUNTY—Parmenter et al's Stewart 1, C SE SW SW 14-7-9, rig. Henry Greis & Kerr, Pearson 1, C SE NE NE 30-5-4, cd 3500 ft.

JEFFERSON COUNTY — Oasis Drilling Co.'s Major 1, C SE SW 34-5-6, spd and sd.

KAY COUNTY—Tonkawa Dev. Co.'s McDaniels 1, C SE SE SE 15-25-1, fsh 1140 ft. Souligny Bros.'s School Land 1, NEc NW 16-25-3, dr 3735 ft. Davis Drilling Co.'s Street 1, C NE NE NE 31-28-3, fsh 3710 ft.

KINGFISHER COUNTY — McKenna & Crawford's No. 1, NEc SW 27-16-6, dr 240 ft. Bu-Vi-Bar No. 1, SEc NW 11-19-9, lcn abn.

LINCOLN COUNTY—Douglas Oil Corp.'s Ewing 1, NWc 7-13-3, fsh 4515 ft. Ruby et al's Cull 1, NEc NW 36-15-4, sd 4721 ft. Flynn, Morgan & Young's Rittenhouse 1, NWc SE 26-16-5, dr 1370 ft.

LOGAN COUNTY—Blackford O. & G. Co.'s Lair 1, C S L N½ SE 28-16-1, sd 1675 ft. Haley & Pioneers, Quair 1, SWc SE 33-18-3, dr 1900 ft. Franklin Oil Assn.'s Moore 1, SWc SE 28-18-4, 6-in at 3905 ft. Bryan & Emery's No. 1, NWc SE 33-19-4, fsh 315 ft.

LOVE COUNTY—Pender et al's Gray 1, C SE SE 19-9-1, dr 2535 ft.

MAJOR COUNTY—Franz & Slick's Gray 1, C NW 36-21-11, sd 1000 ft. Texas Prod. Oil Co.'s Cheyenne Basin 1, SWc 6-22-14, sd 200 ft.

MARSHALL COUNTY—United "8" Oil Co.'s Marshall 1, SW SW 30-5-6, sd 585 ft.

NOBLE COUNTY—Miller, 101 Ranch 1, NEc 1-24-1, set 10-inch cas at 1725 ft.

POTTAWATOMIE COUNTY — Davis Detrick, McCathy 1, SEc NW 10-6-2, dr 4045 ft. Shaffer et al's Ives 1, C SE SE 12-10-3, cement 8-inch at 3620 ft. McCullough's Madgett 1, NWc 25-10-4, cementing 10-inch at 2410 ft. Central National Oil Co.'s Toney 1, C SW SW SW 28-10-4, sd 755 ft.

SEMINOLE COUNTY — Barnsdall-Phillips' Ingram 1, NEc SW 10-9-5, dr 2800 ft. Mag. Pet. Co.'s Jackson 1, SWc NE 22-7-7, spud. Pure Oil Co.'s Jonah 1, C E L NE NW NE 15-9-7, dr 2480 ft.

STEPHEN COUNTY—Lewis Clark & McCanghtry's Jefferson 1, SE NE 31-2-4, rigging. Flowers & Frazier's Turner 1, NEc NE 25-2-9, abn 2519 ft.

TILLMAN COUNTY—Oasis Drilling Co.'s Snelling 1, SEc SE SE 13-1-6, sd 1400 ft. Tipton et al's Riverbed 1, C NE NE 1-5-5, 6⅝ cas at 3162 ft.

TEXAS COUNTY—H. F. Wilcox's Zea 1, SWc SE 29-3-13, no report; Hovey 1, SEc SE 21-4-14, no report. Valerious O. & G. Co.'s No. 1, NWc SW 18-3-12, no report; No. 2, SEc SE 35-5-12, no report. Foster, Reiter & Brann, No. 1, NE 10-2-11, no report. Foster-Reiter,'s No. 1, SEc SW 9-3-15, no report. Allison, Garber & Pulse's No. 1, 4-1-12, no report.

Kansas Wildcats

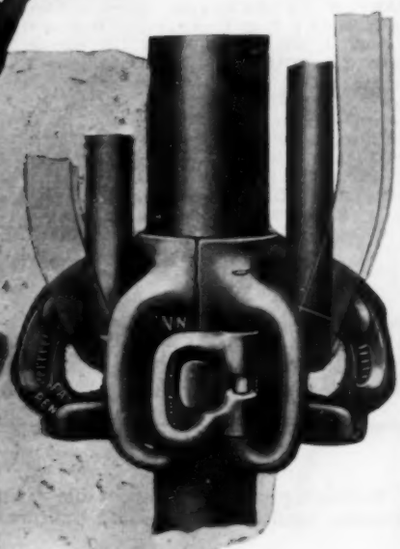
COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Chase County—		
Derby Oil Co., Newman 1, NWc SW 24-20-9, . .	*	2500
Cowley County—		
Pette & Bank's Withers 1, NEc NW 32-30-5 . .	*	2921

DUNN TOOLAGRAM

Dunn Side Door, Double Link Tubing Elevator

Dunn "Tubing Flyer" Tubing Elevator (Double Door)



DUNN is different

Dunn Side Door, Single Link Tubing Elevator

Different scientifically, fundamentally, in operation, in safety, in speed, in efficiency, in economy, and longevity of service.

The difference occurs from first-hand, extensive field-use knowledge of all that a tubing elevator should and can be made to be, complete from every angle of operation.

Our business methods are also different. We will send any reputable user, Dunn Tubing Elevators, freight prepaid, on approval, without obligation, that you may demonstrate under your own conditions of usage, their difference. We believe that an elevator which won't make good under all conditions is not much of an elevator.

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DUNN TUBING ELEVATORS

DUNN MFG. CO.,
OXNARD, CALIFORNIA
309 West First Street, Tulsa, Oklahoma

DUNN SAFETY *means* DONE SAFELY

Company, Well and Location	Initial Production Bbls.	Depth
Lyon County—		
R. G. Gillespie, Flading 1, SWc NE 9-20-12	*	2000

DRILLING REPORT

BARBER COUNTY—R. B. Brown's Martin 1, NWc 14-34-11, sd 1500 ft.

BARTON COUNTY—John Herron's Everleigh 1, SEc NE 22-18-3, sd 4550 ft. Huffins et al's Smith 1, NE SE NE 17-10-11, dr 4700 ft.

BUTLER COUNTY—Eyessen's Varner 1, NEc SW 29-25-4, spud. Manhattan Oil Corp.'s Daley 1, SWc SE 25-24-6, lcn; Potts 1, NE NEc 29-24-7, spud. W. M. Neeley O. & G. Co.'s Kiser 1, SW SE SW 12-26-7, sd 2760 ft.

CLOUD COUNTY—Concordie Oil & Prod. Co.'s Murdock 1, Sec 6-6-4, cd 3030 ft sd.

COWLEY COUNTY—Phillips Pet. Co.'s Hunt 1, NEc 16-34-5, fsh 3250 ft. Branson et al's White 1, SEc SW SW 7-30-6, dr 1364 ft. S. H. E. Pet. Co.'s Day 1, NE NW 24-34-6, td 3369 ft.

GRAHAM COUNTY—Gruien & Shiler's Baker 1, NWc SE NW 17-10-24, rig.

LYON COUNTY—Connell et al's Ball 1, SEc SW NW 23-18-10, dr 1220 ft. Abel et al's Rednoor 1, SWc 11-18-12, lcn. Abel & Finney's De Long 1, NWc SW SW 22-18-12, dr 1540 ft. Culp et al's No. 1, SWc SE 25-19-10, rig. Buch's Eskridge 1, NE SE 36-19-11, dr 1400 ft. Troxell et al's Williams 1, NE SW 12-20-10, sd 1375 ft. Gordon et al's Stilwell 1, SEc 24-20-11, spd and sd. Connell et al's Lewis 1, SWc 4-20-11, lcn. Miss. Valley Oil Co.'s Neuman 1, C NW SE 25-20-11, dr 1100 ft. Connell et al's Welch 1, NEc SW 23-20-12, spud and sd. Gashe & Balliere's Stratton 1, SEc NW 32-20-13, lcn. Haviland et al's No. 1, SE NE NE 7-20-13, lcn. Sheedy et al's Morris 1, NWc SE 19-21-10, sand 2185-99 ft; dry 2380 ft. S. W. Petrol. Co.'s Vorhees 1, SWc NW 34-21-10, show 2070-2118. Miss. Valley Oil Co.'s Langley 1, C SW SE 4-21-11, fsh 1200 ft. Swartz's Tiles 1, SEc SW 29-21-12, rig. Phillips Pet. Co.'s Shepard 1, SW NW 29-21-13, dr 520 ft.

OSAGE COUNTY—Baker et al's Lease 1, C SE SE 3-15-15, sd 260 ft. Rogers & Bittle's Berth 1, SEc NW SE 28-17-15, lcn. Mull-Vit Dev. Co.'s Neil 1, NWc NE SW NW 8-17-17, sd 2835 ft.

RENO COUNTY—Frank Hopper's Stevens 1, NWc 7-26-7, ur 2640 ft.

RILEY COUNTY—Pawnee O. & G. Co.'s Marks 1, SWc NE NW 26-10-6, dr 2400 ft.

ROOKS COUNTY—Keys Pet. Co.'s Saidon 1, NWc SW SE 7-2-20, spud and sd. C. Findeiss et al's Minx 1, SWc 25-10-9, sd 3669 ft.

SALINE COUNTY—Thrall et al's Halquest 1, SEc NE NE 15-15-4, sd 1010 ft.

SUMNER COUNTY—Roxana Pet. Corp.'s Miller 1, NE SW 17-32-2, dr 3020 ft. Wentz' Oil Corp.'s Schwartz 1, NWc NE NE 27-34-2, dr 2025 ft.

WABAUNSEE COUNTY—Williams et al's Henderson 1, NEc SW NE 15-13-12, sd 3600 ft.

WOODSON COUNTY—Alter et al's Hunt 1, NWc SW 13-25-14, sd 700 ft.

PERMITS GRANTED FOR NEW WELLS

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:

Number of Wells for Week Ending

	Jan. 1	Jan. 8	Jan. 15	Jan. 22	Jan. 29	Feb. 5	Feb. 12	Feb. 19	Feb. 26	Mar. 5	Mar. 12	Mar. 19	Mar. 26	April 2	April 9	April 16
Kansas	40	30	23	28	44	24	31	59	30	18	37	55	50	39	24	36
Oklahoma	76	78	60	92	85	71	85	100	66	140	91	114	74	136	114	115
Arkansas	10	18	10	12	13	28	11	28	13	28	21	31	26	30	16	26
Louisiana	12	15	17	20	23	23	37	23	21	32	55	29	29	36	27	25
Texas	167	111	162	153	150	146	176	201	233	170	244	234	169	277	172	173
California	17	25	28	35	35	31	34	26	35	34	19	41	22	36	52	9
Total	322	277	300	340	350	323	374	437	398	422	467	504	370	554	405	384

CALIFORNIA

Dominguez—Shell Co.'s Reyes 33, 34-3-13.

Long Beach—A. J. Delaney's No. 30, 13-4-13; A. J. Delaney's No. 31, Walter P. Temple Oil Co.'s No. 4, 18-4-12.

Midway—North American Oil Cons.' No. 29, 30-31-24. North American Oil Cons.' No. 39, 30-31-24. Standard Oil Co.'s No. 43, 29-31-24. Standard Oil Co.'s No. 50, 33-31-24.

Richfield—Standard Oil Co.'s Anaheim Union Water Co. 1, 34-3-9.

OKLAHOMA

Caddo County—Hall and Briscoe's Bigley 1, center of the northeast of the southeast of the northeast of 10-5n-9w. Gorton Trust Co.'s Wagner 3, center of the southeast of the southwest of 12-5n-9w.

Carter County—The Texas Co.'s Deryden 1-B, northeast corner of the southeast of 17-1s-3w. Gilmer's Herns 3, northwest of the southwest of the northeast of 34-1s-3w. Simpson & Fell's Parnell 3, southwest of the southeast of the northwest of 34-1s-3w. Humble Oil & Ref. Co.'s Carpenter No. 8, southeast of the northeast of the northeast of 22-2s-3w. Magnolia Pet. Co.'s Shellenburg 12, southeast corner of the southwest of 16-4s-2w. Schermerhorn et al's Jelliff 1, northeast of the northwest of the northwest of 24-5s-1e.

Creek County—J. B. Grieves' Porter 1, south west corner of the southeast of 12-19-8. Gled Oil Co.'s Ross 3, center of the south line of the southeast of the southwest of 13-19-8; No. 3, Ruth, southeast of the northwest of the northwest of 13-19-8. Devonian Oil Co.'s Miller 3, northeast corner of the southeast of the northeast of 14-19-8. Savoy Oil Co.'s Johnson 4, southeast corner of the northwest of the southeast of 22-17-8. Barnsdall Oil Co.'s B. Mitchell 1-A, southeast corner of the northeast of the southwest of 26-17-8. Tidal Oil Co.'s Sissie Jim 2, northwest corner of 31-15-8. Herry & Whitehill's Davy 1, southwest corner of the northeast of the southeast of 2-14-8. Simms Oil Corp.'s Brown 1, northeast corner of the northwest of the southwest of 4-14-8. Ike Simmons et al's Berryhill 1, southwest corner of the northwest of the southeast of 4-18-10. Gray Oil Co.'s Leader 1, northeast corner of 3-18-11. Sun Ray Oil Co. et al's Sango 3, northeast corner of the northwest of the southeast of the northwest of 6-18-12. Sun Ray's Sango 4, southeast corner of the northwest of the southeast of the northwest of 6-18-12. Sun Ray's Sango 5, northwest corner of the southwest of the southeast of the northwest of 6-18-12. Brooker & Warren's Strip 1-A, center of the west line of the northwest of the southwest of 24-17-10. Wilcox Oil & Gas Co.'s Hamilton 7, southwest corner of the northeast of the northeast of 32-16-9. C. G. Tibbens' Unallotted 28, center of the south line of the southwest of the northeast of 30-15-9. Hall & Donnelly's Knight 2, northeast corner of the southeast of the southwest of 20-14-10.

Comanche County—Humble Oil & Ref. Co.'s Dunham 1, southeast corner of the northeast of 23-2n-10w. Stanforth & Mayer's Weaver 1-A, northeast corner of the southeast of 2-2n-10w. Humble's Allen 1, center of the northwest of the northeast of the southwest of 24-2n-10w. Humble's Allen 2, center of the northeast of the northeast of the southwest of 30-2n-9w. Magnolia Pet. Co.'s Hardy 3, center of the southeast of the northeast of the southwest of 30-2n-9w.

Garvin County—Magnolia Pet. Co.'s Maudlin 8, southwest of the northwest of the southeast of 16-1n-3w. Carter Oil Co.'s Deryden 7, southwest corner of the southeast of the northwest of 17-1n-3w.

Grady County—Becker-Reed Oil Co.'s Indian 1, center of the northeast of the northwest of 19-4n-6w. Carter Oil Co.'s Abernathy 3, center of the east line of the west half of the northeast of the southwest of 35-3n-5w.

Garfield County—Sinclair Oil & Gas Co.'s Denker 6, old well deepened, northeast corner of the southwest of 13-22-4w; North Walker 15, old well deepened, northeast corner of the northwest of the northwest of the northeast of 13-22-4w; Metcher 16, southeast corner of the northeast of 13-22-4w. Franchott's Lynds 3, old well deepened, southeast corner of 7-22-3w. Sinclair's Hartley 13, southwest corner of the southeast of the northwest of 18-22-3w.

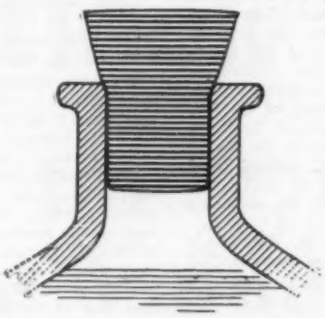
Hughes County—J. L. Brock, Jr. et al's Long 1, center of the northwest of the northwest of 22-8-9.

Jefferson County—A. C. Brown's Seay 5, southwest corner of the northeast of the northwest of 33-6s-5w. Gypsy Oil Co.'s Seay 20, center of the east line of the southwest of the northeast of 30-6s-5w; Seay 21, center of the southwest of the northeast of 30-6s-5w. Pender Production Co.'s J. L. Black 1, northeast corner of the southwest of 25-7s-4w.

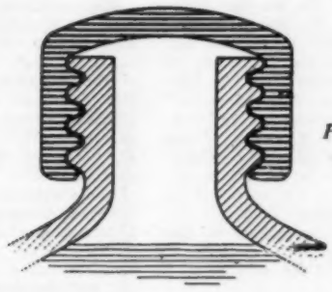
Kay County—Moore Oil Corp.'s Wood 1, southeast corner of the southeast of 4-28-2w. Comar Oil Company's McCullough 5, northwest corner of the southeast of 5-28-1w; Horne 4, northeast corner of the southwest of the northeast of the northwest of 8-28-1w. Simms Pet. Co.'s Walker 1, northwest corner of the southwest of 27-28-1w. Schowald et al's J. Moore 1, southwest corner of the northwest of 4-27-1w. Polling & Denny's Case 4, northwest corner of the southwest of 4-27-1w. Blackwell Oil & Gas Co.'s Jameson 2, northeast corner of the southeast of 5-27-1w; Geiger 8, northeast corner of 9-27-1w. Marland Oil Co.'s Fanny Gaylor 1, northeast corner of the southwest of 19-27-1w. Ballentine et al's Buessing 1, northeast corner of the northwest of 28-27-1e. Marland's Rhodd 1, center of the north line of the east half of the northwest of 4-25-2e.

Lincoln County—The Texas Co.'s Roberson 1, northwest of the northeast of the northeast of 11-14-5.

Okmulgee County—Devonian Oil Co.'s S. Tiger 6, center of the east line of the southeast of 24-16-12. Independent Oil & Gas Co.'s Hoskins 15, center of the southwest of the



Principle of Ordinary Bottom Water Plug



Principle of GUIBERSON Bottom Water Plug

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No mere friction hold, however tight, can ever even BEGIN to rank with the screw hold.

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GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The OIL WEEKLY

northeast of the northwest of 27-16-12. W. C. Newman et al's Stake 1, northwest corner of the southwest of the northeast of 3-14-12. The Texas Co.'s James 1, southwest corner of the northwest of 28-13-11. Wigton & Long's Chittim 2-A, northwest corner of the northeast of the southeast of 29-13-11. C. O. Buckles' Jackson 16, center of the south line of the northeast of the northwest of 5-11-12. Papoose Oil Co.'s C. Rentie 8, center of the south line of the southwest of the southwest of 11-14-14. Elm Oil Co.'s A. Rentie 9, center of the west half of the southeast of the southeast of 13-14-14. Machling & Berling's Colbert 4, center of the north line of the northeast of the northeast of 14-14-14. Simms Oil Co.'s L. Doyle 14, southeast of the southwest of the northeast of the southwest of 15-13-14, twin; L. Doyle 15, southwest corner of the northeast of the southwest of 15-13-14. Kingwood Oil Co.'s A. Griffen 5, southeast corner of the northeast of the northeast of 6-12-14.

Okfuskee County—Minnehoma Oil Co.'s Walker 1, northeast corner of the southeast of 17-10-9. W. C. Newman's Goober 1, southwest corner of the southeast of the northwest of 2-10-12, old well deepened. Kingwood Oil Co.'s Tecumseh 1, northwest corner of the southeast of the northwest of 21-10-9. J. J. Deaner's Grayson 2, southeast corner of the southwest of 3-12-11. J. L. McMahon's Morgan 1, southwest corner of the southeast of the southeast of 3-12-11. Phillips Pet. Co.'s Randall 1, northwest corner of the northeast of the northeast of 10-12-11.

Osage County—Phillips Pet. Co.'s No. 13, northwest corner of the southwest of 1-27-5; No. 14, northeast of the northwest of the southwest of 1-27-5; No. 4, southeast corner of the northeast of 2-27-5. Gypsy Oil Co.'s No. 1, northeast corner of the southeast of 36-25-5. Branstetter et al's No. 1, center of the west line of the east half of the west half of the southwest of 23-22-11. Gypsy Oil Co.'s No. 1, southeast corner of 11-21-7. Titus & Norris' No. 4, center of the south line of the north half of the south half of the northeast of 7-21-11; No. 6, northwest corner of the southwest of the northwest of the southwest of 15-21-12. New England Oil & Pipe Line Co.'s No. 1, southwest corner of the northwest of 2-20-10. Sand Springs Home No. 92, center of the north half of the south half of the southeast of 23-20-10.

Pawnee County—Magnolia Pet. Co.'s Arkeketa 3, center of the northeast of the northwest of the northwest of 9-22-3w. Riverside O. & R. Co.'s Schoolland 1, northwest corner of the southwest of the northeast of 36-20-6. Mid Continent Pet. Corp.'s School land 18, southeast corner of the northwest of the southwest of 16-20-7. Mid Continent's School Land 19, northeast of the northwest of the southwest of 16-20-7; School Land No. 20, northeast of the southwest of the northwest of 16-20-7.

Payne County—Empire Gas & Fuel Co.'s Listen 4, northeast corner of the northwest of the northwest of 26-18-3. Home Gas Co.'s Laughlin-Berry 1, northwest corner of 30-18-6, old well deepened.

Seminole County—Magnolia Pet. Co.'s Johnson 2, southeast corner of the northwest of the southeast of 10-9-5. Carter Oil Co.'s M. Carter 1, southwest corner of the northwest of the northeast of 24-9-6. Magnolia Pet. Co.'s Ripper 1, southwest corner of 20-9-7. Shaffer Oil & Ref. Co.'s W. Jefferson 4, northwest corner of the northeast of the northeast of 18-9-8. Magnolia Pet. Co.'s Rodman 1, southwest corner of the northeast of the northwest of 14-8-7. Magnolia's Carolina 5, northeast corner of the southwest of the northwest of 14-8-7; Hanning No. 2, northwest corner of the northeast of the northwest of 28-8-7; Gilstrap No. 2, northeast corner of the southeast of 6-7-8.

Stephens County—Green et al's Simms 1, southwest corner of the southeast of the southeast of 7-2n-4w. Magnolia Pet. Co.'s Dora Russell 7, northwest corner of the southwest of the southeast of the southeast of 25-1s-9w; Dora Russell No. 8, southeast corner of 25-1s-9w. Winkler & McQueen's Church Lot 1, southwest corner of the southeast of the southeast of the southeast of 25-1s-9w. Gamble et al's J. C. Massey 1, southwest corner of the southeast of the southeast of 25-1s-9w. Beard & Cobb's Brigham 1, southwest corner of 30-1s-8w. Gibbons & Johnson's Florence 1, northwest of the southeast of the southeast of 11-3s-6w.

Tulsa County—Ellen Oil Co.'s Island 1, northeast corner of 25-18-14. Newbrough & Hagen's Montgomery 1, northeast corner of the northwest of the northeast of 36-17-13.

Wagoner County—Talbott Bros.' W. Kelly 2, northwest corner of the northeast of the northwest of 10-18-16. Eastern Okla. Producing Co.'s S. Tiger 6, southeast of the northwest of the southwest of 21-18-16. Knox & Thomas' S. McIntosh 1, southeast corner of the northwest of 3-17-16. Sewell & Gillette's L. McIntosh 3, center of the north line of the northwest of the southeast of 25-17-16. W. D. Egolf et al's J. Wilson 5, northwest corner of the southwest of the northwest of 30-17-17. George Wilson et al's F. A. Watson 1, center of the east line of the west half of the northwest of the southeast of 11-16-16. Denton & Marshall's Marshall 1, southwest corner of the northwest of the southeast of 35-16-17.

KANSAS

Butler County—Dixie Oil Co.'s Truesdale 3, southwest corner of the northeast of the southwest of 27-27-7; Tuesdale 4, northwest corner of the southeast of the southwest of 27-27-7. Manhattan Oil Corp.'s Lobe 1 "A", southeast corner of 28-27-7. Connell et al's Pettit 2, southeast corner of the northeast of the northeast of 20-28-6. Shawver et al's Sutton 1, southwest corner of the northeast of 19-29-5. Crandall, Murta et al's Sharp 1, northwest corner of the southeast of 9-21-8. Mid Kansas Oil & Gas Co.'s Shambaugh 3, southeast corner of the southwest of the southwest of 36-22-9.

Cowley County—Empire Gas & Fuel Co.'s Elrode 3, southwest corner of the northwest of the northwest of 3-32-5. Waite Phillips-Marland-Independent's Caldwell 12, northwest corner of the southeast of the northwest of 28-33-3.

Edwards County—C. E. Roth & Co.'s Porter

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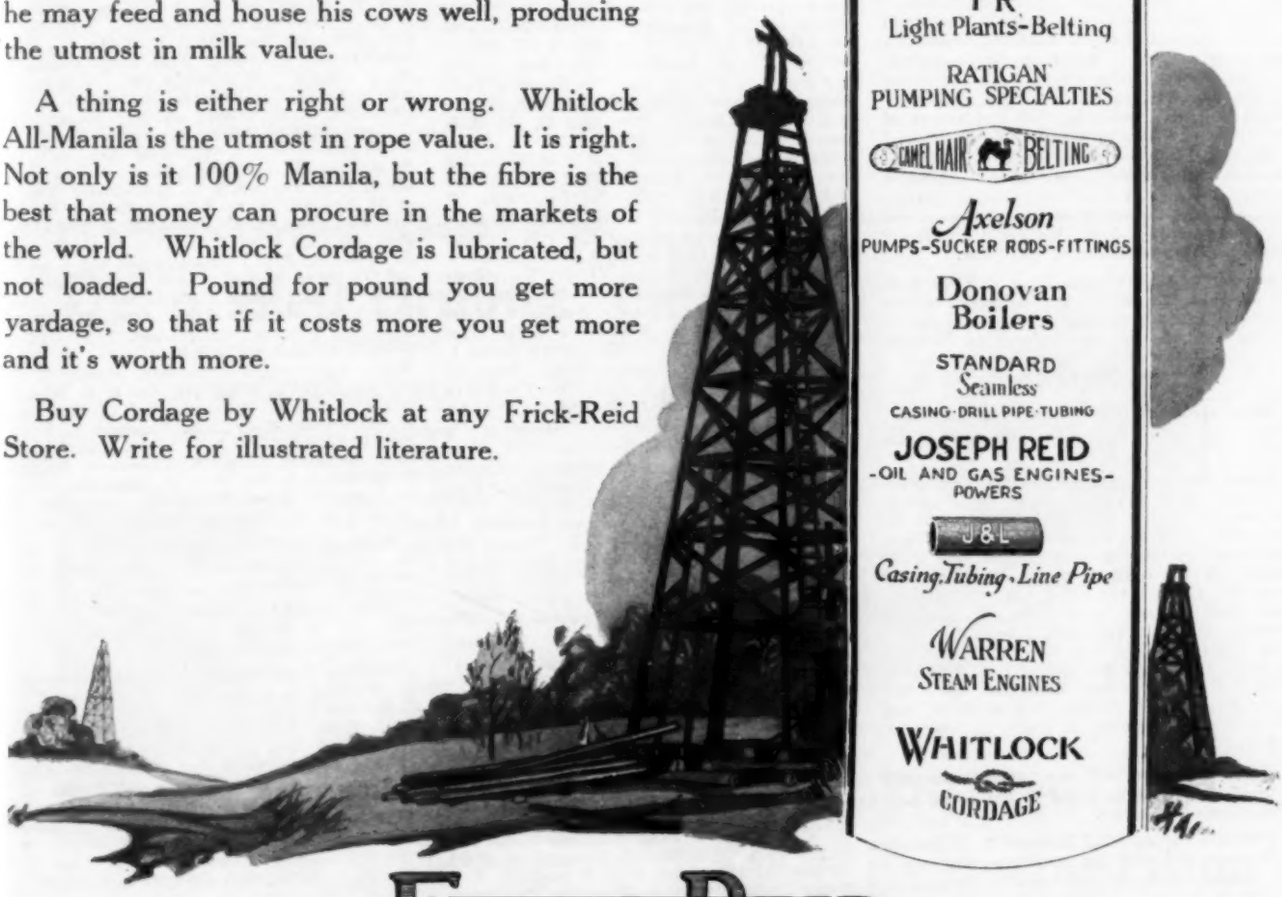

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14, southeast corner of the southwest of 12-29-8.

Greenwood County—Empire Gas & Fuel Co.'s Hind 7, northeast corner of the southwest of the southwest of 11-22-11.; Duby 5, southeast corner of the northwest of the southwest of 14-22-11. Selby Oil & Gas Co.'s Harris 3, northeast corner of the southwest of the northwest of 19-22-11; Harris 4, southeast corner of the southwest of the northwest of 19-22-11. Phillips Pet. Co.'s Hilliard 7, southwest corner of the northeast of the southwest of 33-22-11. York State Oil Co.'s Scott 2 "C", southwest corner of the southeast of the southwest of 33-22-11. Manhattan Oil Corp.'s Scott 2 "C", southwest corner of the southeast of the southwest of 24-23-8. Mid Kansas Oil & Gas Co.'s Allen 27, northeast corner of the southwest of the northeast of 22-23-10. Roth, Faurot & Manhattan Oil Corp.'s Thrall 7 "B", northeast corner of the southwest of the southwest of the northeast of 27-23-10. Simms & Amerada's Ellis 2, northeast corner of the southwest of 26-23-11. Mid Continent Pet. Corp.'s Dehlinger 11 "B", southwest corner of the northeast of the northeast of 29-23-13. Torxell et al's Cummings 1, southwest corner of the northwest of the northeast of 34-24-11. Rhodes & Abel's Blackwell 4, southwest corner of the southeast of the southwest of the northeast of 16-24-13. Mid Kansas O. & G. Co.'s Ladd 8, Acct. No. 3, northeast corner of the northwest of the southwest of the northwest of 20-25-9; No. 9, southwest corner of the northwest of the northwest of the northwest of 20-25-9. McCulloch et al's Schultz 1, northwest corner of Lot 2, sec 2-28-11.

Lyon County—Double A O. & G. Co.'s Chatterton 1, southeast corner of the northwest of 11-17-12; Price 1, southeast corner of the southwest of the southwest of 20-18-13; Gentner 1, northwest corner of the southeast of 8-19-13. Loy & Cheney's Nicholas 1, southeast corner of the southwest of the southwest of 2-20-11. Theta Oil Co.'s Jones 1, southwest corner of the southeast of the northwest of 30-21-10.

Russell County—Valerius O. & G. Co.'s E. Munsell 2, northeast corner of the northwest of the southwest of 17-12-15w; Oswald-Valerius 17, southwest corner of the northwest of the northwest of 17-12-15w; Mermis 1, northeast corner of the southeast of 18-12-15w.

Sumner County—Sinclair O. & G. Co.'s Holt 1, northeast corner of the southeast of the southeast of 24-33-2; Holt 2, northwest corner of the southeast of the southeast of 24-33-2e.

LOUISIANA

Arcadia Parish—General Pet. Co.'s Fontenot Fee 6, 45-9s-2w, 188 ft N and 65 ft W of SE corner of section.

Caddo Parish—Dixie Oil Co.'s Dillon 74, 11-21n-15w, 590 ft N and 360 ft W of SE corner of section; Worley 5, 23-22-n-15w, 1040 ft W and 280 ft N of SE corner of section. Gilliam Syndicate's Sellington 1, 17-21n-14w, 250 ft N and 250 ft W of SE corner of W½ of SW¼. Gulf Ref. Co. of La.'s Ferry Lake 232, 15-20n-16w, 1450 ft E and 300 ft N of SW corner of section. Magnolia Pet. Co.'s Dillon 16, 24-21n-15w, 850 ft S and 976 ft E of NW corner of section; Dillon 17, 24-21n-15w, 350 ft S and 1301 ft E of NW corner of section. Tholl Oil Co.'s Huckaby 8, 14-21n-15w, 30 ft N and 30 ft W of SE corner of NW¼ of SW¼ of SW¼.

Calcasieu Parish—Vinton Oil Syndicate's Johnson 2, 3-11s-12w, 563 ft S and 50 ft E of NW corner of section.

Caldwell Parish—Chal Daniels' B. F. Lively 1, 6-12n-5e, 150 ft N and 500 ft E of SW corner of SE¼. T. R. Robbins et al's Beasley 1, 10-11n-4e, 300 ft S and 300 ft E of NW corner of SW¼ of SW¼.

Jefferson Davis Parish—Yount-Lee Oil Co.'s Fee 2, 28-9s-5w, 814 ft W and 451 ft S of NE corner of section.

La Salle Parish—Bailey & Smith's Lucinda Holmes 1, 26-10n-1e, 311 ft S and 523 ft W of NE corner of SE¼ of NE¼. Degman & Youngblood's Hardtner & Tannehill 1, 8-10n-2e, 150 ft N and 810 ft E of SW corner NW¼ of SE¼. Hardtner Oil Co.'s Urania Lbr. Co. 2, 7-10n-2e, 450 ft E and 150 ft N of SW cor SE¼ of SE¼. J. I. Roberts' Russell 4, 25-10n-1E, 560 ft E and 600 ft S of center of section; Russell 5, 25-10n-1e, 1220 ft S and 100 ft E of center of section; Russell 6, 25-10n-1e, 1220 ft S and 560 ft E of center of sec. Yeary & Bristol's Urania Lbr. Co. 1, 8-10n-2e, 100 ft N and 100 ft E of SW cor of NW¼ of SW¼.

Ouachita Parish—C. E. McKenzie's McKenzie 1, 6-19n-5e, 660 ft N and 660 W of SE corner of section. United Carbon Co.'s Wilson 2, 26-20n-4e, 1518 ft S and 1979 ft E of NW corner of section.

Sabine Parish—J. N. Lummus' Drake 2, 24-4n-12w, 200 ft W and 250 ft S of NE cor of SE¼ of SE¼.

Union Parish—Clark Creek Oil Co.'s Frost-Johnson 1, 18-23n-1e, 400 ft E and 200 ft N of SW corner NE¼ of NE¼.

Webster Parish—Magnolia Pet. Co.'s J. F. Sexton 1, 32-23n-9w, 660 ft S and 660 ft E of NW corner of SE¼; B. M. Turner 1, 21-21n-10w, 370 ft S and 330 ft E of NW corner SW¼ of NE¼.

ARKANSAS

Columbia County—Gordon-Folwell-Dickson Synd.'s Jones 1, 36-15-20, 330 ft S and E of NWc SE¼ SE¼.

Nevada County—Smitherman & McDonald's Waters 5, 2-14-21, 150 ft S and E of NWc SW¼ SE¼.

Ouachita County—El Dorado-Union Oil Co.'s Hall 1, 31-15-19, 335 ft S and 330 ft E of NWc NE¼ SW¼. Harrell Trust's Moline Timber Co. 2, 17-12-17, 300 ft S and 400 ft E of NWc NW¼ NE¼. Magnolia Pet. Co.'s Watson 1, 31-15-19, 330 ft N and E of SWc NW¼ SW¼. Simms Oil Co.'s Hildebrand 10, 28-15-15, 200 ft S and E of NWc of tract. Smith Drlg. Co.'s Shirey 3, 36-15-17, NWc SW¼ NW¼. Standard Oil Co.'s Murphy B-8, 29-15-15, 600 ft N and 200 ft W of SEc NE¼ SE¼.

Union County—Atlantic Oil Prod. Co.'s Andres B-1, 16-17-16, NWc NW¼ SE¼; Andres B-2, 16-17-16, NEc NW¼ SE¼; Graham 2, 16-17-16, NEc N½ NE¼ SE¼; Slaughter 5, 9-17-16, center of south line S½ NW¼ SE¼. Foster et al's Slaughter 2, 9-17-16, center of one-acre tract in SWc E½ NE¼ NE¼. Humble O. & R. Co.'s Slaugter 1, 9-17-16, SWc E½ NE¼ NE¼. H. L. Hunt's Murphy 1, 33-16-16, SEc SW¼ NE¼. Magna Pet. Co.'s Tatum 3, 7-16-15, NWc NE¼ NE¼ NW¼; Tatum 4, 7-16-15, SEc SW¼ NW¼ NE¼. Magnolia Pet. Co.'s Slaughter 3, 9-17-16, NWc E½ NW¼ NE¼. Marine Oil Co.'s Slaughter 5, 9-17-16, center of north line SW¼ SE¼. Owens et al's Slaughter 2, 4-17-16, 157 ft N and 685 ft W of SEc S½ SW¼ SE¼. Peer Oil Corp.'s Palmer 5, 9-16-15, center of west line E½ SE¼ SW¼. Rovenger Oil Corp.'s Graham 1, 16-17-16, NWc SE¼ SE¼. Roxana Pet. Corp.'s Flournoy 1, 4-17-16, SWc SE¼ SE¼. C. L. Saxon's Fee 2, 4-16-16, NEc NW¼ SW¼. Standard Oil Co.'s McClanahan 12, 6-16-15, 330 ft N and 1363 ft E of SWc Lot 3 in NE¼; old well to be deepened. Stock et al's Dumas 1, 10-17-16, NWc SE¼ SW¼.

TEXAS

Archer County—Allday Oil Corp., City Nat. Bank Bldg., Wichita Falls, B. G. Hasson 1, B 165 R. Carson sur, 150 ft to E and 208 ft to S line. M. Kleedon, Bradford Bldg., Wichita Falls, E. N. Birdwell 3, C. Wright sur, 300 ft E No. 2. Bridwell & Heydrick, Wichita Falls, W. T. Hutcheson 1, B 123, Amer. Trib. sur, 150 ft to N and W lines. Texhoma Oil & Ref. Co., Wichita Falls, W. B. Hamilton 9, B 22, DCSL No. 4 sur, 450 ft to E and 706 ft to S line. Cosden & Consolidated Oil Co., Staley Bldg., Wichita Falls, S. E. Oldham C-1, H. W. Harris sur, 450 ft to E and 150 ft to S line. Ilseng Production Co., Fort Worth, R. P. Prideaux 2, B 15, Fraley & Nicholson sur, 286 ft W No. 1; 3, 150 ft to S and W lines. Magnolia Petroleum Co., Dallas, Cowden-Portwood 11, 1581 TE&L sur, 300 ft N No. 4. Mrs. H. B. Wallace, Wichita Falls, Kemp & Kempner 44, No. 22 SP Ry sur, 300 ft NE No. 35. V. C. E. Wright, Wichita Falls, W. M. Miller 5, B 18 DCSL No. 3 sur, 500 ft SE No. 3. Gwynn & Robertson, Harvey-Snider Bldg., Wichita Falls, L. Echols 1, 2418 TE&L sur, 150 ft to N and 513 ft to E line. Consolidated Oil Co. of Texas, Wichita Falls, J. H. Turbeville 1, B 141, R. Carson sur, 450 ft to E and 750 ft to S line. Maer & Staniforth, Wichita Falls, B. T. McCarty 1, R. Chisholm sur, 150 ft to S and E lines. Petroleum Prod. Co., Wichita Falls, L. J. Kunkel 1, T. McCoy sur, 450 ft to N and 150 ft to E line. Gulf Production Co., Fort Worth, B. R. Jeske 2, T. McCoy sur, 350 ft N No. 1; 4, 150 ft to S and W lines. H. C. Donohoo, Harvey-Snider Bldg., Wichita Falls, W. L. Andrews 1, 1826 TE&L sur, 150 ft to S and W lines. Muse & Robertson, Box 434, Wichita Falls, J. Hawley 1, S 2, B 2, SP Ry sur, 150 ft to S and W lines. L. T. Burns, Wichita Falls, M. W. Jackson 3, B 10, W. B. Aldridge sur, 300 ft S No. 2.

Anderson County—Navarro Oil Co., Houston, Greenwood, Barrett & Greenwood 2, J. D. Smullen sur, 1500 ft to W and 93 ft to S line.

Brown County—Midwest Exploration Co., Amarillo, M. J. Suttles 1, No. 140 R. Mitchell sur, 150 ft to N and E lines. E. D. Spratt et al, Dublin, D. Strange 1, S 125, J. E. Melton sur, SE corner. Humble Oil & Ref. Co., Cisco, B. F. Dunn 11, J. Delgado sur, 275 ft E No. 3. G. C. Schoonmaker, Fort Worth Club Bldg., Ft. Worth, H. L. Cleveland 1, H. Kraber sur, 150 ft to N and E lines. Texas Co., Cisco, B. F. Dunn 8, S 12, J. Delgado sur, 150 ft to N and 1050 ft to E line; 7, 415 ft to E and 150 ft to S line. Wear, Counts & Harris, Brownwood, M. Carter 1, S 614, M. M. Flores sur, 450 ft to N and 150 ft to W lines. Pandem Oil Corp., Wichita Falls, Westerman 1, S 150, N. P. Mitchell sur, 150 ft to N and W lines. J. K. Hughes Dev. Co., Mexia, J. T. Arledge 4, N. B. Mitchell sur, 750 ft to W and 150 ft to N line. States Oil Corp., Eastland, J. H. Allen C-4, J. Delgado sur, 882 ft E of No. 3. Barbour Oil Co., First Nat. Bank Bldg., Houston, M. J. Suttles 1, R. Mitchell sur, 150 ft to N and W lines. C. Andrade, Burkburnett, A. J. Conklin 1, J. H. Grimes sur, SW corner. R. G. Gillespie, Park Bldg., Pittsburgh, Penna., J. P. Newton 3, S 145, W. Swain sur, 155 ft to N and 168 ft to E line. M. S. Inglewright, Cisco, J. B. Eubanks 1, E. Mitchell sur, 150 ft to W and 450 ft to S line. Humble Oil & Ref. Co., Cisco, J. C. Kilgore 2, B 3, J. Delgado sur, 200 ft to N and 600 ft to E line; E. Stover 3, B 4, J. Delgado sur, 675 ft to N and 200 ft to W line. S. D. Hunter, Brownwood, R. M. Johnson 1, J. S. Thom sur, 1200 ft to E and 154 ft to S line. Nelson & Crabtree, 1005 First St., Brownwood, T. E. Hill 1, S 63, I. Midgett sur, 618 ft to N and W lines. Wade, Anderson & Armstrong, Moran, J. A. Jopling 1, G. B. Bogg sur, 450 ft to W and 150 ft to S line. Arkansas Fuel Oil Co., Box 94, Shreveport, La., J. L. Ferguson 1, S 14, HT&B Ry sur, 2200 ft to E and 1086 ft to S line. Saunders, Gregg & Thompson, Ranger, J. Woolridge 1, No. 10 S. F. 12053 sur, 150 ft to S and E lines. Texas Co., Cisco, B. F. Dunn 5, S 12, J. Delgado sur, 300 ft S No. 2.

Baylor County — Magnolia Petroleum Co., Dallas, W. H. Portwood 6, 2412 TE&L sur, 400 ft E No. 5.

Bexar County— Humble Oil & Ref. Co., Cisco, O. M. Stapper 1, E. Cotari sur, 750 ft to N and 150 ft to E line.

Callahan County—Wise & Jackson, Sapulpa, T. E. Wylie 4, S 4, D&D Asy sur, 450 ft to E and 150 ft to S line; 5, 150 ft to N and 450 ft to E line. W. C. Mee, Brownwood, C. B. Snyder 2, S 4, B C, T&NO Ry sur, 2020 ft to W and 1720 ft to N line. Miller & Miller, Putnam, G. Anthony 10, S 1, D&D Asy sur, 320 ft S No. 9; 11, 300 ft W No. 10; 12, 300 ft W No. 11; 13, 300 ft E No. 3. W. J. House, Moran, Wagley-Eubanks 8, 2039 TE&L sur, 750 ft to N and 150 ft to E line; 9, 300 ft S No. 8. J. E. Urschel, Putnam, T. A. Wylie 1, S 122, Univ. Lands sur, 750 ft to E and 150 ft to S line. H. H. Simons, Putnam, H. Wagley 1, 2999 TE&L sur, 150 ft to S and W lines; 2, 450 ft to N and W lines. Prairie Oil & Gas Co., Ranger, A. W. Warren 2-A, 2039 TE&L sur, 250 ft W No. 5. McBee & Womack, Duncan, Okla., W. J. Biggerstaff 1, 3154 TE&L sur, 90 ft to center of S line.

Coleman County—Archie Shaw, Burkett, W. T. Burns 5, A. Wickson sur, 1050 ft to N and E lines. Canyon Oil & Gas Co. and Cromwell Oil & Gas Co., Cross Plains, J. W. Harris 2-A, J. Sanders sur, 600 ft N No. 24. Midwest Exploration Co., Amarillo, J. C. Dibrell 2, S 265,

J. W. Hicks sur, 250 ft to S and E lines. Jas. C. Park, 2107 Eighth St., Wichita Falls, Howard 1, B 6, M. McCarty sur, 300 ft to N and 150 ft to W line. C. B. Newby et al Breckenridge, J. W. Vance 1, S 101, ET Ry sur, 150 ft to S and E lines. Midwest Exploration Co., Amarillo, J. C. Dibrell 3, S 265, J. W. Hicks sur, 250 ft to N and W lines. Mid-Kansas Oil & Gas Co., Tulsa, Okla., J. C. Dibrell 2, J. W. Hicks sur, 200 ft to N and W lines.

Cherokee County — Woodmansel & Southbrook, Box 52, Alto, L. F. Hill 1, J. M. Durst sur, 600 ft to E and 997 ft to S line.

Crockett County—California Co., Colorado, University 2, S 34, B 7, 330 ft to E and 1650 ft to S line.

Clay County—Western Oil Corp., Brown Bldg., Wichita Falls, Morgan-Jones 2, B 59, PCSL sur, 150 ft to E and 200 ft to S line.

Duval County — Wm. F. Morgan, Sames-Moore Bldg., Laredo, B. Walsh 1, S 185, 67 ft to N and 65 ft to E line. Humble Oil & Ref. Co., Houston, Dowdy 1, S 272, BS&F Ry sur, 425 ft to N and W lines.

Eastland County — Kokomo Petroleum Co., Gorman, B. F. Wood 1, S 19, B 1, H&TC Ry sur, 300 ft to E and 400 ft to S line. Texas Pacific Coal & Oil Co., Ranger, Hodges Hrs. 6, M. Haley sur, 660 ft to W and 1470 ft to N line. L. A. Delaney, Rising Star, B. F. Terry 1, S 34, B 2, ET Ry sur, 425 ft to N and 200 ft to W line.

Freestone County—Nacatoch Oil Co., Wortham, W. O. Carroll 1, Wortham sur, 110 ft to N and 70 ft to E line.

Guadalupe County—United North & South Oil Co., Luling, A. J. Baker 32, H. Cottle sur, 363 ft W No. 27.

Ganzales County — Jos. Bruner, Box 174, Waelder, P. D. Davis 1, A. Zumwalt Jr. League, 2170 ft to N and 1860 ft to W line.

Hutchinson County—Newby Oil Co., Amarillo, S. G. Cockrell 1, S 3, B Y, M&C sur, 330 ft to N and W lines. Marland Oil Co., W. T. Waggoner Bldg., Ft. Worth, Johnson 1, S 6, B 1, Brooks-Burleson sur, 420 ft to N and E lines. Westex Oil Co., Amarillo, J. D. Whittenburg 3, S 13, B Y, M&C sur, SW cor. Midwest Exploration Co., Amarillo, H. E. Smith 5, S 5, B Y, 330 ft to N and E lines; Currie-Smith 1, S 5, B Y, 330 ft to N and E lines; 2, 250 ft to N and W lines.

Hardin County—Sun Oil Co., Dallas, Libbie Oil Co. 1, B 25, S. Jackson sur, 50 ft to N and 80 ft to E line.

Harris County—V. Cahill, 203 Archer, Houston, J. R. West 1, B 1, J. Strange sur, 100 ft to E and 35 ft to S line. Coastal Burk Homer Co., 7, west central.

Jack County—Tidal Oil Co., W. T. Waggoner Bldg., Ft. Worth, W. H. Terrill 1, B 9, M. Rockefellow sur, 213 ft to E and 1068 ft to S line.

Jim Hogg County—Associated Oil Co., Houston, R. Lopez 1, B 21, 350 ft to W and 150 ft to S line.

Live Oak County—H. Coquat, Three Rivers, W. H. Sartain 2, S 43, B 43, C. F. Simmons sur, 700 ft W No. 1. Houston Oil Co. of Texas, Houston, State Land 1, Nueces River Bed sur, 2350 ft to S and E lines.

Milam County—P. I. Garrett, Rockdale, T. Phillips 1, J. W. Burchard sur, 150 ft to N and E lines. Bynum Co., Rockdale, Niehaus-Isaacs 12, 300 ft SW No. 3; 13, 300 ft SW No. 12; 14, 300 ft SW No. 13. Noack Oil Co., Rockdale, O. Urban 2, T. J. Chambers sur, 150 ft to SW and 500 ft to SE line. Fritz Fuchs, Taylor, M. Seidl 1, T. S. Arnett sur, 160 ft to N and 150 ft to W lines. Texas Petroleum Dev. Co., Box 809, Cameron, Phillips & Garner 5, T. J. Chambers sur, 300 ft W No. 4. Union Production Co., Rockdale, Strelsky 3, Chambers sur, 300 ft NE No. 1. Roy Long Oil Co., Navasota, A. Strelsky 1, T. J. Chambers sur, SE corner; 2, NE corner; 3, NW No. 2; 4, NW No. 1; 5, NW No. 3; 6, NW No. 5; 7, NW No. 6; 8, NW No. 7; 9, NW No. 7; 10, SW No. 7.

Mitchell County—Magnolia Petroleum Co., Dallas, C. M. Adams 5, S 11, B 28, No. 1 Sur, 660 ft NW No. 2. California Co., Colorado, A. L. Foster 1, S 6, B 29, T&P Ry sur, 1650 ft to S and E lines.

Montague County—Texhoma Oil & Ref. Co., Wichita Falls, J. W. Rowland 7, J. Chambliss sur, 150 ft to N and 1306 ft to E line. Fleming & Kimbell, Harvey-Snyder Bldg., Wichita Falls, R. Hynds 3, J. J. Wall sur, 397 ft W No. 2. F. H. E. Oil Co., Harvey-Snyder Bldg., Wichita Falls, M. H. Salmon 2, S. Little sur, 561 ft to W and 150 ft to S line.

Medina County—Medina Oil Co., Hondo, R. Taylor 4, B 135, R. Bruchet sur, 300 ft S No. 1.

Matagorda County—Houston Gulf Gas Co., Houston, W. H. Gray 2, Wm. Hadden sur, 150 ft to E and 700 ft to S line; N. R. Myers 3, B 4, Wm. Hadden sur, 973 ft to N and 1340 ft to W line.

McCulloch County — M. L. Howell, Lohn, Roberts & Moore 7, J. Ohering sur, 300 ft W No. 6.

Marion County—Tholl Oil Co., San Jacinto Life Bldg., Beaumont, Harrel Hrs. 4, M. G. Wall sur, 760 ft to N and 1500 ft to W line. Interior Oil Corp., Washington Hotel, Shreveport, La., W. B. Stallcup 1, Wm. Mays sur, 800 ft to S and E lines.

Navarro County—Jones, Black, Penn & Atlantic Oil Prod. Co., Dallas, W. N. Kenner 2, W. P. Land sur, 150 ft to NW and 150 ft to SW line.

Palo Pinto County—E. T. Hart, F. & M. Bank Bldg., Ft. Worth, G. W. McDonald 1, S 24, B 2, T&P Ry sur, 150 ft to S and W lines. Morris, Fulcher & Howell, Ranger, R. C. Hinkson 1, S 81, B 3, T&P Ry sur, 800 ft to N and 1000 ft to E line.

Panola County — Magnolia Petroleum Co., Dallas, J. Ford 1, S. R. Booker sur.

Parker County—St. Mary's Oil & Gas Co., St. Mary's W. Va., A. S. Carter 11, S 70, LAL sur, 440 ft to E and 525 ft to S line.

Reagan County—Krupp & Pickrell, Big Lake, University A-2, S 36, B 9, 270 ft S No. 21.

Rusk County—A. C. Williams et al, Hattiesburg, Miss., S. C. Rugg 1, S. C. Rugg sur, 200 ft to S and E lines.

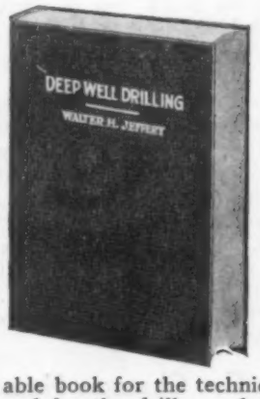
Refugio County—Houston Gulf Gas Co., Houston, W. Heard 1, Refugio sur, 200 ft to

Deep Well Drilling

Second Revised Edition

Just Off the Press

By Walter H. Jeffery



An up-to-date handbook on well drilling by the methods most generally used: cable, or standard, rotary, combination cable and rotary, and diamond drilling. Includes chapters on Geology, Use of Mud Fluid, Cas'ng Methods, Use of Packers, Cementing, Electrical Drilling and Pumping, Shooting, Completing the Well by Modern Methods, Costs of Drilling, Strength of Materials, Etc. A valuable book for the technical school, for the student and for the driller and operator.

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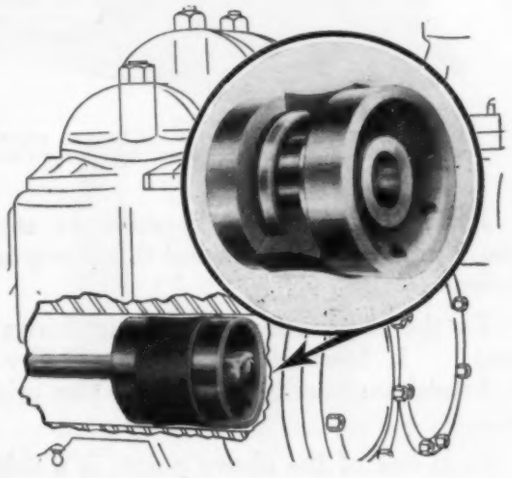

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N and 500 ft to W line; 2, 500 ft to N and W lines; F. V. W. Heard A-1, B 142, Refugio sur, 250 ft to N and W lines.

Shackelford County—Ashley & Roach, Moran, T. E. Hayden 1, S 114, Univ. Lands sur, center. W. M. Hill, Bremond, J. F. Pisch 10, S 7, LAL sur, west of No. 2. McCurdy, Saxon & Graham, Box 494, Albany, B. S. Walker 1, 138 TE&L sur, 1100 ft to W and 200 ft to S line. Milham Corp. of Texas, Travis Bldg., San Antonio, J. P. Clark 1, S 3, Blind Asy sur, 450 ft to N and E lines. Roeser & Pendelton, Breckenridge, J. I. Cook A-4, S 84, ET Ry sur, 150 ft to W and 500 ft to S line; A-5, 150 ft to W and 864 ft to S line; A-6, 150 ft to N and W lines; A-7, 150 ft to W and 1520 ft to S line; A-8, 150 ft to N and 780 ft to E line; A-9, 660 ft to N and E lines; B-3, S 85, ET Ry sur, 150 ft to N and W lines; B-5, 150 ft to N and E lines. J. G. Terry et al Morgan Bldg., Wichita Falls, S. Flippen 1, S 41, B 11, T&P Ry sur, 150 ft to S and W lines. C. C. Cary, Moran, A. E. Burns 8, S 69, LAL sur, 450 ft to N and E lines.

Shelby County—Sebastian & Smith, Center, J. S. K. Fowler 1, J. M. Hughes sur, 1620 ft N of S corner.

Stephens County—Mid-Texas Petroleum Co., Breckenridge, W. W. Cunningham 1, 1200 TE&L sur.

Wichita County—Perkins & Cullum, Wichita Falls, Burnett et al 1-A, HT&B sur, 750 ft to W and 1755 ft to S line. G. R. Ridgeway, Perkins-Snyder Bldg., Wichita Falls, C. Goetze 11, SA&MG Ry sur, 330 ft NW No. 2. Tidal Oil Co., W. T. Waggoner Bldg., Ft. Worth, J. & J. Waggoner 1, B 15, M. A. Willis sur, 150 ft to E and 450 ft to S line. W. C. Sutherland, Iowa Park, Burk & George 3, B 22, Cowherd Bros. sur, 450 ft to N and 150 ft to E line. King Petroleum Co., Perkins-Snyder Bldg., Wichita Falls, Cole 6, J. McCool sur, 300 ft W No. 5. J. W. Duncan, Wichita Falls, J. E. Parker 6, B 8, Cowherd sur, 450 ft to N and E lines. Wolfe & Boller, Staley Bldg., Wichita Falls, A. Daume 2, S 1, SP Ry sur, 720 ft to N and 300 ft to W line. Texhoma Oil & Ref. Co., Wichita Falls, S. B. Burnett 8, S 2, T&NO Ry sur, 37 ft to W and 42 ft to S line. Ryan Consolidated Petroleum Corp., Bartlesville, Okla., R. Nance 63, S. O. Fowler sur, 300 ft SE No. 62. Proctor Oil Co., Staley Bldg., Wichita Falls, T. Birk 7, M. Powell sur, 187 ft W No. 2. Skelly Oil Co., Tulsa, Okla., S. T. Taylor 1, B 97, WVFL sur, 150 ft to W and 102 ft to S line. Geo. T. Davis, 637 E Third St., Burkburnett, W. Morgan 5, B 818 E. Stanley sur, 284 ft SE No. 2. Exley & Covert, Box 291, Iowa Park, M. F. George 1, J. A. Ventrees sur, 720 ft to N and 135 ft to E line. Trinity Production Co., Waggoner Bldg., Wichita Falls, S. B. Burnett 17, S 7, HT&B Ry sur, 300 ft W No. 16. Gulf Production Co., Fort Worth, J. L. Waggoner 3, M. A. Willis sur, 300 ft S No. 1. Brown & Gwinn, Box 839, Wichita Falls, A. Mitchell 6, P. Castleman sur, Burleson & Chenault, Harvey-Snyder Bldg., Wichita Falls, J. L. Powell 1, H&GN Ry No. 21 sur, 1050 ft to E and 150 ft to N line.

Wilbarger County—H. W. Wier, Vernon, C. Zipperle 1, S 80, B 14, H&TC Ry sur, 150 ft to N and 450 ft to W line. Bridwell & Heydrick, Wichita Falls, W. T. Waggoner 1, S 42, MEP&P Ry sur, 1170 ft to S and 150 ft to W line. Gulf Production Co., Fort Worth, W. T. Waggoner 5, S 50, B 14, H&TC Ry sur, 450 ft to N and 150 ft to E line. Magnolia Petroleum Co., Dallas, H&TC 72, S 15, B 13, H&TC Ry sur, 600 ft E No. 71. McConnell & Tedford, Wichita Falls, L. H. Shive 1, Jas. Walker sur, 750 ft to N and W lines.

Wharton County—Gulf Production Co., Houston, C. Mick 1, S. F. Austin sur, 100 ft to N and E lines.

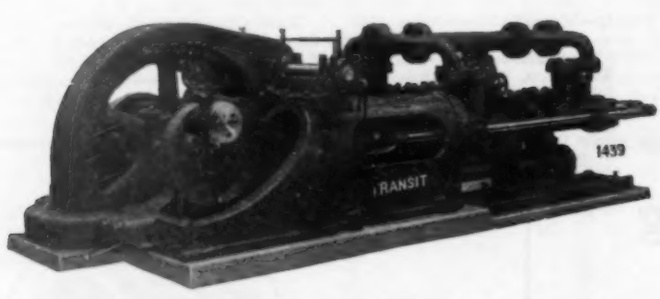
Washington County — Hancock & Pruitt, Medical Arts Bldg., Dallas, C. Chadwick 1, Lawrence and Lee sur, 416 ft to E and 520 ft to S line.

Webb County—Staley & Wynne, Staley Bldg., Wichita Falls, M. Bruni 2, B 13, A. de Arriba sur, 300 ft N No. 1. Three Rivers Oil Co., City Nat. Bank Bldg., San Antonio, Puig 3, B 76, Las Albercas sur, 300 ft E No. 2; 4, 300 ft E No. 3.

Young County — Humphreys Corp., Mason Bldg., Houston, W. Griffin 1, S 2, SP Ry sur, 300 ft to N and W lines. Murchison & Fain Oil Co., Wichita Falls, Campbell 2, 236 TE&L sur, 1470 ft to W and 810 ft to S line.

Just Right

for the smaller pipe lines



4½x12-inch Texas Type Power Pump for 1000 pounds working pressure. Capacity 250 barrels per hour. 6-inch suction and 4-inch discharge flanges.

JUST RIGHT—Not because we say so, but because many pipe lines have found this pump ideal for their conditions.

To the experienced eye, four things are at once evident: 1. Strength. 2. Accessibility. 3. Durability. 4. Interchangeability of parts. The price is very reasonable.

Each one of the above points is a subject on which we will go into detail for you.

Please address the home office of the company.

NATIONAL TRANSIT
Pump & Machine Company

Oil City, Pa.

New York Philadelphia Pittsburgh
Cleveland Houston Tulsa Denver

Link-Belt Opens Florida Office

Link-Belt Company, of Chicago, Indianapolis, and Philadelphia, have recently announced that Nelson Brandt has rejoined their sales management force, and that he will manage a new branch office which is to be opened up in Florida.

This should be of interest to the many friends and former customers of Mr. Brandt, who is well known throughout the South, but particularly along the Atlantic Seaboard, as an expert in engineering equipment.

He will not only solicit sales for both engineering and merchandise material throughout the State of Florida ——with office location at, or in the vicinity of, either Jacksonville or Orlando— but he will also establish and maintain contact relations with the Link-Belt Company's agents, Cameron and Barkley. It is also reported that he will work hand in hand with L. J. DeHoney, the Chicago Sales Representatives at Miami.

Goulds Co. Changes Name

Seneca Falls, N. Y.—Effective April 1, the company formerly known as the Goulds Manufacturing Company, of this city, announced a change in its corporate name to Goulds Pumps, Incorporated.

There has been no change in organization, business policy or ownership, the board of directors, officers, managers, and personnel remaining the same.

Los Angeles Harbor Shipments for March

Los Angeles, Cal.—Petroleum shipments out of Los Angeles harbor during March totaled 8,678,367 barrels, bringing the total shipments for the three months of 1926 up to 25,075,784 barrels, according to figures issued April 14 by the Marine Exchange.

Of the March shipments, 3,515,848 barrels were crude oil; 3,058,475 barrels fuel; 1,472,041 barrels gasoline; 229,412 kerosene; 147,797 Diesel; 14,094 distillate; 236,379 tops, and 4321 lubricating oil.

Crude shipments moved in Pacific domestic trade amounted to 2,106,578 barrels in March; in Pacific foreign, 84,000 barrels; in Atlantic domestic, 1,216,144 barrels; in Atlantic foreign, 109,126 barrels.

Fuel shipments moved in Pacific domestic trade totaled 1,329,464 barrels in March; in Pacific foreign, 856,919 barrels; in Atlantic domestic, 586,491 barrels, and in Atlantic foreign, 285,601 barrels.

March gasoline shipments in Pacific domestic trade aggregated 501,029 barrels; in Pacific foreign, 156,469 barrels; in Atlantic domestic, 669,149 barrels, and in Atlantic foreign, 145,394 barrels.

March kerosene shipments in Pacific domestic trade from Los Angeles harbor ran 12,217 barrels; in Pacific foreign trade, 217,195 barrels, and in Atlantic domestic, 71,198 barrels.

Shipments of tops in Pacific domestic trade amounted to 72,000 barrels in March, while in Atlantic domestic trade they amounted to 164,379 barrels. Distillate shipments for Pacific domestic and foreign were 4870 barrels and 9294 barrels, respectively; while Diesel shipments ran 41,587 barrels and 35,012 barrels, respectively.

Pacific foreign shipments of lubricating oil during March totaled 4321 barrels.

O. C. S. Makes Appointments

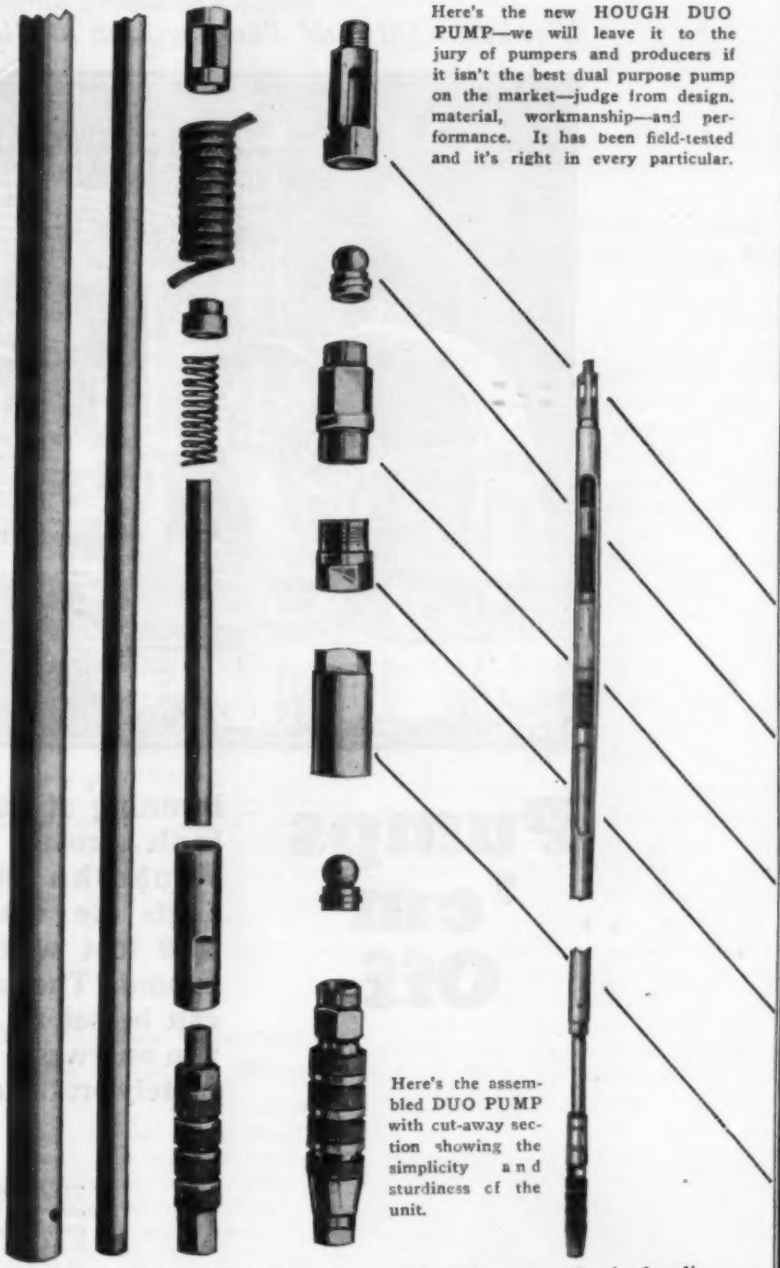
Coffeyville, Kan.—The O. C. S. Manufacturing Company, of this city, announces the following appointment of field representatives: J. W. McKewon is now field representative in Oklahoma, with headquarters at Tulsa.

Jim G. Litherland will cover Arkansas, Louisiana, and the East Texas area, with headquarters at Shreveport, La.

John H. Moran will have charge of the West Texas area, with headquarters at Fort Worth.

W. C. "Bill" Thomas, general superintendent for Vacuum Oil Company in Texas and Louisiana, returned this week from Lake Charles, La., after making a week's trip through Vacuum's producing territories at Lockport field and the Texas Gulf Coast.

Brand New!



Here's the new HOUGH DUO PUMP—we will leave it to the jury of pumpers and producers if it isn't the best dual purpose pump on the market—judge from design, material, workmanship—and performance. It has been field-tested and it's right in every particular.

Here's the assembled DUO PUMP with cut-away section showing the simplicity and sturdiness of the unit.

THE HOUGH DUO PUMP is a real dual pump—the hydraulic packed section of the Plunger Valve can be converted into a four cup valve by reversing the follower and bottom and with three cup rings and four valve cups making the unit an 8 cup Plunger Valve. Comes complete with Valves, ready to screw on sucker rods; sets on top of old working barrel or tubing seat may be used in new wells. When sucker rods are pulled, barrel complete with Valves, is removed. Eliminates tubing jobs. Equipped with Steelex Balls and Seats throughout. Furnished with Plunger Valve 4 cup, hydraulic packing; 8 cup Plunger Valve also available but not standard. Lengths: 5 to 10 feet for 2-inch, 2½-inch or 3-inch tubing. On sale by all good dealers. The performance of the HOUGH DUO PUMP in wells where excessive sand is present is remarkable—try one in your troublesome well.

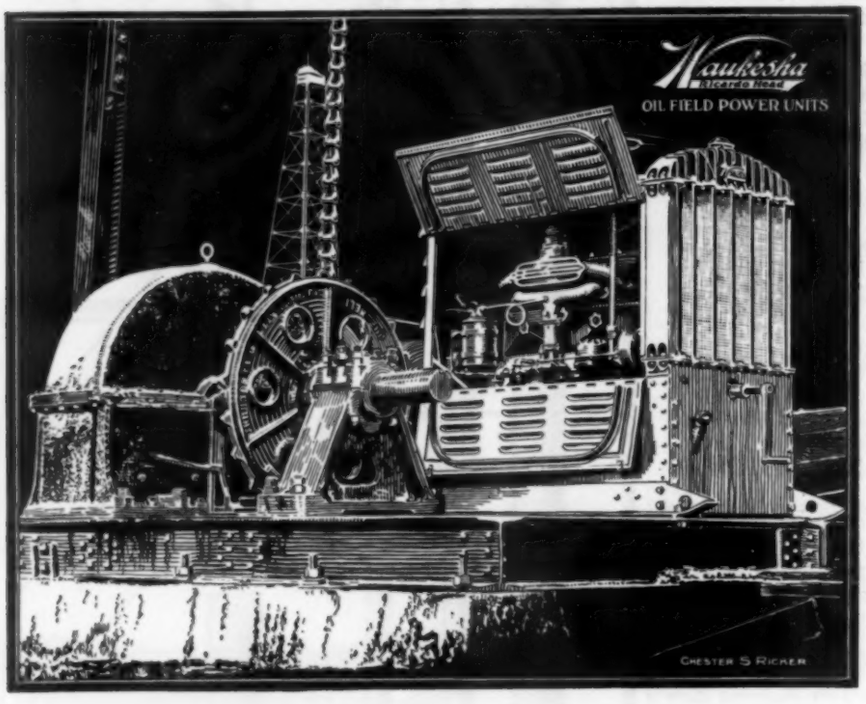
A complete circular giving detailed information in regard to the DUO will be mailed on request.

The Charles N. Hough Manufacturing Company

Franklin, Pennsylvania

Products that cut down your underground overhead

Waukesha Oil Field Pumping Unit at Cleveland, Oklahoma



Pumps 'em Off

Running at 16 to 18 seventy-two-inch strokes per minute, these Waukesha Oil Field Pumping Units are "pumping off" 3200 to 3500 foot wells through 2½-inch tubing. They are easily portable—can be set up in less than a day—run on "waste gas"—and are completely protected from the weather.

The driving gears are of the full spur gear type—accurately cut, not cast—completely enclosed and running in oil. A seven-hole "Parkersburg" crank is used. A Standard sprocket is mounted on pitman crankshaft to drive reels for bailing and pulling casing. Adequate power is provided by engine for both pumping and pulling purposes.

OIL INDUSTRY EQUIPMENT DIVISION

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Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Baker Cement Shoe Aid To Floating Long Strings

Where long and extremely heavy strings of casing are set on bottoms as is often done, the new Baker Cement Shoe is recommended to float the casing in the hole, and when set is used to cement through.

The device is a combination of the Baker plain casing shoe, a solid cast iron rotary hole guide, and an internal cast iron plug with a back-pressure valve.

Holes were drilled in the shoe below the valve through which cement can be ejected. The shoe is a full three-sixteenths inch larger at the cutting edge below the holes, thus keeping the holes free and open.

Additional information may be had by communicating with the Baker Casing Shoe Company, P. O. Box L., Huntington Park, Los Angeles, California.

Norris Brothers Catalog

Norris Brothers, Incorporated, Robinson, Ill., and Fort Worth, Texas, manufacturers and jobbers of oil well supplies, have announced that copies of a new catalogue, No. 19, are ready for distribution.

This catalogue illustrates and describes all equipment handled by the company, which includes a special line of pumping specialties, valves, etc. An inquiry addressed either to the home office at Robinson, Ill., or to Fort Worth, Texas, will be answered with a copy of the catalogue.

Smith Separator Catalog

The Smith Separator Company, with general offices in Tulsa and branch offices throughout the oil country, have just issued a new catalogue embracing the various products the company manufactures and distributes. The catalogue has been worked out under the supervision of M. F. Waters, general manager, and is profusely illustrated and comprehensive as to detail of equipment displayed.

The Smith oil and gas separator is shown in its various types as is also the Waters water gauge. Embraced in the catalogue also are descriptive information on Reed air filter, Deming pumps, American-Marsh pumps and Fisher Governor Company specialties, all these products being distributed in the oil country through the Smith Separator Company.

Copies of this catalogue may be obtained by communicating with the company direct.

Celite Products Bulletin

Celite Products Company, 1320 S. Hope Street, Los Angeles, California, has ready for distribution, Bulletin 317 which gives specifications for architects and engineers, on the use of Celite. The bulletin contains specifications covering diatomaceous silica as an admixture in concrete, as well as typical specification clauses covering the use of Celite as an admixture.

Copies of the bulletin may be obtained on request.

Axelson Machine Company Starts Expansion Program

Los Angeles, Cal.—As part of its 1926 expansion program, Axelson Machine company is making numerous improvements at its Los Angeles factory. Recently several milling machine grinders and other special equipment have been installed. It is said by the manufacturers that these machines will enable certain departments to double their output, due to the saving in time.

Workmen have begun to demolish the entire office building occupied by the executive and administrative departments, making way for a two-story edifice that will provide four times as much space as the present structure. When the present plant was built, 10 years ago, it was thought to be big enough to take care of the business for at least 25 years, but proved to be too small within five years from the time it was put up.

The new building will be two stories in height and will be 40 feet wide by 175 feet long. The lower floor will be occupied by the bookkeeping department, and a reception room, and rest quarters. In the rear will be provided a lecture hall for the use of junior executives and for sales meetings. On the second floor will be housed the executive and drafting departments.

New Goggles Recommended For Field Machine Shop Men

"Chambers 20th Century Helmet Goggles" have been introduced as among the most useful and practical articles on the market for those engaged in oilfield machine shop work.

Principal features embodied in the helmet goggles are comfort, adjustable head size, an adjustment to conform with the face and eyes with absolute comfort and absolute protection. The helmet and goggles complete do not exceed eight ounces in weight. The goggles are made of Bakelite, a non-conductor of heat or electricity. An added feature is a screw cap device for changing the lens.

The goggles will take any standard size make of lens, amber or smoked.

When the worker desires to wear the helmet as a shop cap, the goggles can be placed across the top of the helmet and held in place by a tension spring rivet which fastens the fiber links to the helmet.

The goggles are so constructed as to allow no possible chance of fogging the lens.

Further particulars may be had by writing the Carter-Stone Company, whose offices are located at 515 Pantages Bldg., Los Angeles, Cal.

Why Invite Trouble?

If a blow-out isn't "the devil to pay," what is?

You invite trouble and lots of it, and staggering losses when you drill without a Hosmer Blow-Out Preventer. Its use is a most economical form of highly desirable insurance against such losses.

THE HOSMER BLOW-OUT PREVENTER

provides a means of closing the opening between the outer casing and drill pipe and allows the gas which collects in this space to be safely discharged through the openings in the body of the preventer or below it. It has saved many wells that otherwise would have been lost. It is a boon to new territory and where conditions are not positively known.

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		Cleveland	Stroud	Webb City	

THE EASTERN TORPEDO OF OHIO CO.

C. P. Clark and Bill Cummings ready to hop off in the new aeroplane purchased for use in connection with the service department of Clark Brothers Company.

Tulsa Branch of Clark Bros. Gets Service Aeroplane

Tulsa, Okla.—The Gas Engineering and Construction Company of Tulsa, Mid-Continent representatives of the Clark Bros. Company, have purchased a Waco aeroplane for use in connection with their service department.

Photo shows C. P. Clark of Olean, New York, vice-president and general manager of Clark Bros. Company and Wm. G. (Bill) Cummings, president of the Gas Engineering and Construction Company, taking off at the McIntyre Airport, Tulsa, for an inspection tour of Gulf Coast fields.

The plane will be used by the Gas Engineering and Construction Company, not only as a service plane for emergency calls from the field, but also will serve as a personal plane for Bill Cummings on his various trips to the field.

I. A. Woodring, Cumming's pilot, well known in aeronautical circles in and about Tulsa, has given exhibitions of stunt flying with the plane on several occasions at Tulsa.

Mr. Cummings states that his plane is enabling him to render a speedier service that is much appreciated by his customers.

McDonald Adds Branch Office

Dubuque, Iowa.—A. Y. McDonald Manufacturing Company, with headquarters in this city, has opened a branch office at 1410 Union Avenue, Kansas City, Mo.

With this new branch, McDonald now has five sales headquarters: Omaha, Des Moines, Minneapolis, Kansas City, and the home office, here. All these branches are located to give quick and efficient service to the trade. Stocks will be carried at Kansas City, as at the other stores.

P. A. Williams, already well known to the McDonald trade as their sales manager at Omaha, will act as the Kansas City branch manager.

LETTERS OF Paul Peebles P.S.G.

goshen, indyanna, friday.

mi deer cleopatry

well hunny I gess yu will be susprised 2 no where I am at whitch I am also on account of I do not no a hole lot about where I am at or why I am hear, but all the saim I am hear & hav got a date 2 go 2 a banket whitch the mayor is givvin 2nite & mabe on account of me bein so far away from hoam & not noboddy hear noin me, well mabe I will git 2 make a speach, because I hav got me a cleen shave & a clean collar & shirt & also a tie on, so I am kinder disguised escept everyboddy seems to no that I am from texas on account of the way mi voise soundes. yu no hunny what a musikal base voise I hav when I talk, well these peeple up hear in what is noed as the middel west like 2 hear it, espeshul the laddys, whitch meens that the laddys is about all alike in all parts of the cuntry. but yu do not need 2 pay no nevver mine 2 that hunny, because I am trew 2 yu & dont none of these wimmin meen ennything 2 me.

well hunny it has bin so mutch happen sinct I ritten 2 yu last week that I do not hardly no where 2 start in 2 tell yu about it & even I hav forgot what I alreddy told yu about mi trip so it is pretty hard for me 2 start 2 tell it because I mite start 2 far back & tell yu about the saim thing I told yu last week and tell it difrent, so I will jest start backwards & tell a letter full & mabe befoar I git 2 far back I will hav git tired writtin & quit.

hunny yu bein a woman I gess yu hav got a natral qrosity 2 no why I am where I am at & I gess 2 that yu think it is sum woman the reesin of it, but that aint so hunny because I dont no no wimmin in this town yet, but of corse I will befoar the nite is over, but that does not explane why I cum up here from chicargo. well the reeson is hunny I stay in chicargo till I think it is time 2 git out & then I just hikes out like I done this mornin. I gotten up pretty erly & got in 1 of them yeller jitneys & told the jitney driver 2 take me 2 a first class depo. it is a lot of them in chicargo & this hear bein a hard werkin feller he tooken me 2 the fartherest 1 from where I was at, so I went in & told the ticket man in the depo 2 giv me $5 werth of tickit on the first trane he had goin out, & that is how I cum 2 goshen & I aint sorry yet that I cum on account of it aint nuthin happen 2 me yet, & I wanted 2 git out where it was quiet so I can think about a invenshun whitch has cum 2 me, & ennyway her husban was goin 2 be in town—now don't git me rong hunny—I meen he was goin 2 be in town satterday nite & they want me 2 cum 2 dinner with them then whitch ment that I was goin 2 be loansum friday nite & goshen is a hole lot moar handyer 2 be loansum in than chicargo & cheaper besides.

but I will tell yu about mi invenshun, or mabe it is just a natral resores whitch I hav whitch is kinder werryin me how I can make enny use of it. yu do not no nuthin about lectrisity I gess & statick in perticklur, whitch I hav found out I am a storage battery of when I am up hear where the air aint so wet that it grounds me like it is in huston & goose creek. well hunny this hear statick is funny & it werks funny. the first I noed about me bein a storedge battery of it was cummin up on the trane when the porter was brushin mi close & sed boss yu shore is hot with it this mornin & of corse I sed what & he sed lectrisity. well then the next mornin I was on the trane agin & I notised perticklur 2 sea what that porter wood say & he did not say nuthin about no shock. so then I remembers back 2 the day before that jest befoar I was breshed that time I had passed along threw the car where it was 2 girls sleepin in seets, but that did not meen as mutch then as it did latter after I had bin in chicargo. yu sea they giv yu a key 2 yore room at reel bordin houses, espeshul in chicargo where yu hav 2 lock up evrything & I found out that evrytime I wood go 2 unlock mi door well I wood make a spark big enuff 2 fire a ford silinder. then last nite I went 2 a show whitch had a buntch of girls in it whitch I liked the looks of pretty good, & when I cum 2 unlock mi door it was a flash pretty neer 2 a exploshun. well of corse as usuwal that set mi inventin mine 2 werkin & I cummensed rite away 2 wonderin how I cood git sum finanshul returns from mi natral perpensitys 2 bein human storedge battery, only it seams that it is pekular cirsumstantses like goin 2 a show with a hole lot of girls in it whitch makes the current stronger. I do not no if yu no what I meen. but the way it looks 2 me it ort 2 be sum kind of a skeem where I cood make me a livin bi retailing the lectricity I generates when I go 2 shows, whitch wood be a pretty good skeam for me, only I am afred of what wood happen if I gotten 2 clost 2 sum of them wimmin whitch effecks me like that. I gess yu do not make no sparks on me on account of the humidity of the mosture & watter in the air down around goose creek. I will hav 2 make sum moar experiments on it before I make enny definite plans. it is pretty hard on me 2 hav 2 go 2 all the shows in town where the laddys wares long stockins & steps around so yu can sea how long they are, but I gess I will go ahead hunny & do it in the intrest of scients.

hunny I hav got me a new bordin plase in chicargo on account of like I told yu at the place where I was stayin they hav a habit of jumpin out of the 19 story winder, so I hav moved 2 a plase whitch aint so high as that in the bildin but it is sum higher in the rates, but it is a swell plase where the dinin room is bigger than enny house in goose creek & they hav about 4 peeple 2 wate on yu at the table & it costs 4bits for a fride egg. that is 1 reesen I cum out hear where I can git

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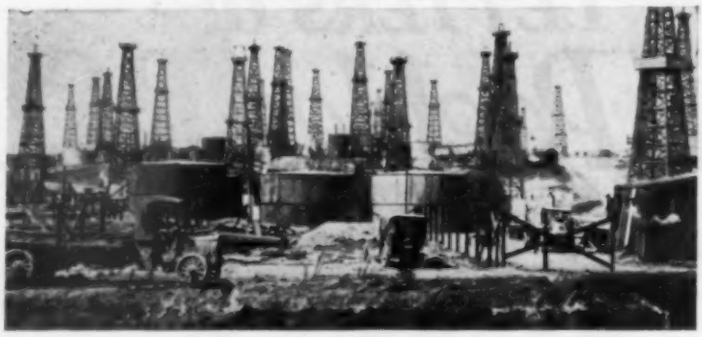

2,000-Barrel Maloneys, Signal Hill, Calif.

The Patented Maloney Crimp

at seams and joints, gives accurate fit of parts without calking. Seams strongly reinforced. Material Rust-resisting Keystone Copper Steel. Valve and Thief-Hatch equipment the best the market affords.

"Buck" Type Vacuum Pressure Valves and Vacuum Breakers Furnished

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KEYSTONE COPPER STEEL

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An Introductory Handbook
By I. A. STIGAND, M.A., F.G.S.

As the title suggests, this handbook is elementary in character, and the main object is to furnish an outline of the general features concerning the occurrence and geology of petroleum or bitumen, in a condensed manner, and with especial reference to practical interest; in the hope that it may serve as an introduction to those desiring to become acquainted with the subject (or students in oil-geology), and that it may also be of some interest to the large class who are concerned in its economic or commercial aspects.

The discussion is limited to the more pertinent theoretical questions and practical considerations, or the general topics of interest; and, where possible, is illustrated by reference to known examples in the field. The materials and the views expressed are founded on personal observations and studies made in various regions during two decades.

CONTENTS

Introductory. The Origin of Bitumen. Stratigraphical Distribution of Petroleum and Stratigraphical Considerations. The Accumulation and Concentration of Petroleum in Relation to Geotectonic Conditions; and the Consequent Classification of Deposits. Problems and Factors in the Movement and Accumulation of Petroleum. Oil-Reservoir Rocks, and the General Features of Petroliferous Strata. Direct Indications of Petroleum. APPENDIX: Geophysical Methods as Applied to Oil-Finding, by Dr. Max Muhlberg.

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1 town I went 2 was knowsha wisconsin & also rasine & wawkeegin where you can go on a street car whitch has a plase 2 eat on it like on a reglar trane. also in chicargo I ride around on tranes whitch is up in the air & I jest wonder what will happen when 1 runs off the bridge whitch aint nare one done with me yet.

well hunny I will close as it is about time for me 2 make that speach & I am goin in the bathroom & prasktis it a little. I will rite 2 yu about it later if I cum out alright.

yore lovin paul.

To Test Walker County

Huntsville, Texas.—Preparations are being made by the Humble Oil and Refining Company to make geophysical tests of leases held in the T. P. Cartwright Survey of Walker County. A large block was leased early in the fall of 1925 by Humble from the Delta Lumber Company. A three-inch hole is being drilled with core machine to a depth of 1500 feet, and the terms of the lease state that one test will be made every 90 days. A crew headed by Humble geologists is making a survey of the lease.

Carib Sells Option On Interest in Colon

New York.—The report of Carib Syndicate, Ltd., gives this information concerning an option now in force:

"On February 1, 1926, your directors granted to a group of New York bankers an option to purchase Carib's 25 per cent interest in Colon Development Company. The option runs to July 1, 1926, the consideration to be paid is $15,000,000. A payment of $100,000 was made for the option, to remain the property of the company in any event. A sale at this figure would mean $30 a sub-share on the present outstanding capitalization of 500,000 shares. In addition to its cash position, the company still have its Barco, Equatorial, Honda and other properties."

Jim Campbell, lease man for the Trinity Royalty Company, subsidiary to Humphrey Oil Corporation, is spending a few days in Houston after returning from Cherokee, where his company is interested in wildcatting.

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Efficient Operation of Boilers Makes For Conservation

(*Continued from page 50*)

pressor stations and small refineries. In this boiler staybolts are conspicuous by their absence. The reader is also referred to a round furnace boiler, described and illustrated in The OIL WEEKLY of October 8, 1924. This boiler is successfully used by one of the largest oil companies in the different foreign fields of the world.

Gas Burners

Gas burners may be classified as high and low pressure burners, the latter with a gas pressure below 6 pounds. In most fields the gas usually comes from the gas separators under low pressure, and unless boosted up to high pressure for the extraction of gasoline in casing head gasoline plants, the gas had to be burned under the boilers as low pressure gas. Among the different kinds of low pressure burners, the multiple jet, multiple mixing type stands out prominently as far as fuel economy is concerned. A description of the Doreco burner, which is of the latter type and one of the latest designs is given here by courtesy of the National Supply Co., who handles this burner.

The general arrangement of the burner is shown in Figs. 18 and 19. It consists of a sheet steel box, carrying at one end the gas jets and mixing tubes of the burner proper, and at the other end the equipment regulating the flow of gas and air. The burner is placed under the boiler fire box, as shown in the illustrations, the burner bars extending into the mud ring opening, and the space around them between the boiler and the burner is effectively sealed with fire brick and dirt. The operating end of the burner extends to the left of the fire box. The boiler governor, which is the only detached unit of the burner, is connected to the steam dome of the boiler and the small ⅜-inch line, connected to the burner. The gas flow in this burner is controlled by the boiler governor and the gas regulator. The flow of air is kept proportional to the flow of gas by means of the automatic damper which is operated by the pressure in the burner side of the regulator through the agency of the damper motor.

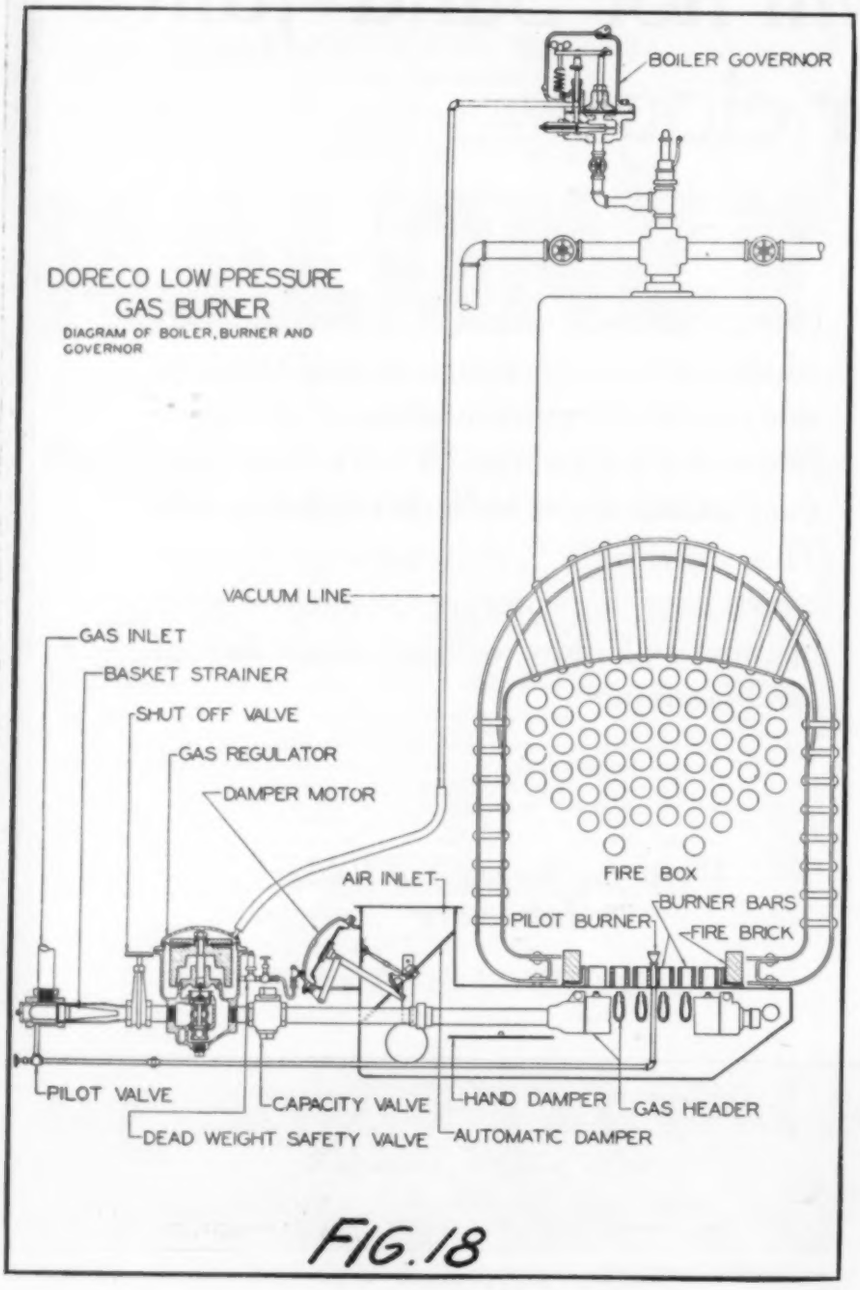

FIG. 18

The flow of gas and air and the construction of the burner is shown diagrammatically in Fig. 18, and the gas first passes through the perforated brass basket strainer which catches the pipe scale and dirt. From there it flows through the shut-off valve (which is used to cut off the gas from the burner), into the regulator, which reduces the pressure from that in the line to 14 ounces, which is the pressure required by the burner. From the low pressure side of the regulator the gas flows through the capacity valve into the gas header, where it is distributed to the burner nozzles. The capacity valve, together with the hand damper, is used to adjust the burner to the particular boiler and stack at installations, after which it is not touched. This capacity valve has a stop to prevent full closure, to insure the regulator and damper motor against back pressure. The flow of gas is further controlled by the boiler governor in order to maintain a constant steam pressure. This is done by varying the pressure on top of the diaphragm, as will be explained later.

The steel box of the burner serves, not only as the frame for mounting and protecting the operating mechanism, but also as conduit for the air combustion. The dirt seal compels all of the air to come through this box, which accomplishes two distinct purposes. In the first place it permits absolute control of the air, and in the second place, by leading all the air through and around the mixing tubes, these parts are being thus kept cool to a point where they will not burn or warp. The air enters the box through the upright stack at the operating end and flows through the automatic damper and the hand damper to the burner bars, where it is mixed with the gas. The hand damper in the horiztontal portion of the box, like the capacity valve, is used to regulate the capacity of the burner to the particular boiler under which it is set. The automatic damper is operated by the gas pres-

sure at the burner nozzles, through the agency of the damper motor, so that the flow of air is maintained in correct proportion to the flow of gas at all rates of firing.

In order that the gas and air be intimately mixed, in the correct proportions for complete combustion the multiple jet, multiple mixing tube has been used in this burner. The flow of gas is divided into 48 parts by means of 48 small nozzles or burner tips. Directly over each nozzle is a short mixing tube inside of which the air and gas are formed into a combustible mixture. There is also a small secondary flow of air for complete combustion carried into the combustion space between the burner bars.

As mentioned above, a low pressure gas regulator has been built into the burner. The high pressure and low pressure chambers in the lower part of the body are connected by a valve which is operated by pressure on the underside of the diaphragm overcoming the resistance of the weighed diaphragm. Pressure from the outlet chamber is admitted to the under side of the diaphragm through a hole and when the pressure on the upper side of the diaphragm is atmospheric, four-

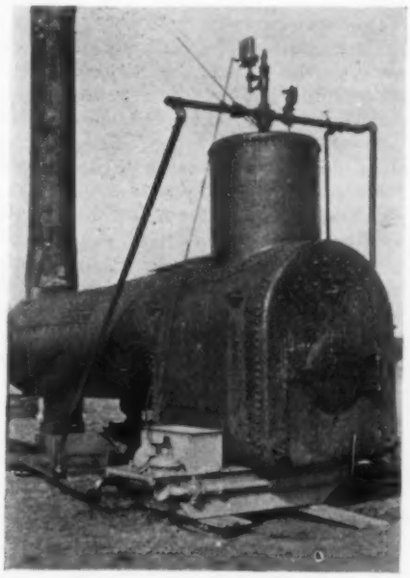

Figure 19

teen ounces per square inch in the low pressure side of the regulator is just sufficient to raise the weighed diaphragm and close the valve. Any reduction in pressure in the outlet line allows the weight to drop, opening the valve and allowing the gas to flow until the pressure is again built up. In actual service, the diaphragm and valve float at the correct level to maintain the proper pressure for a given flow.

The gas pressure is controlled below the maximum of 14 ounces by a vacuum pulled on the upper side of the diaphragm by the boiler governor. If this boiler governor places 6 ounces of vacuum above the diaphragm, this will assist in raising the weight and

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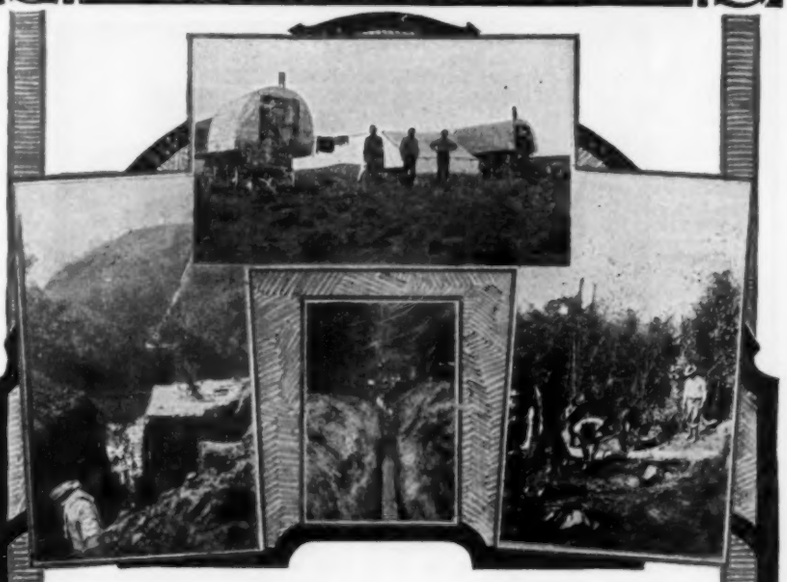

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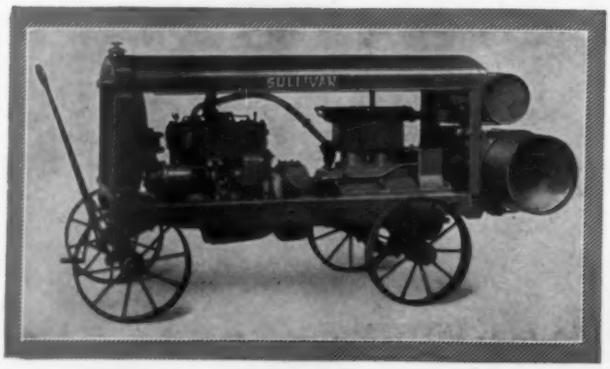

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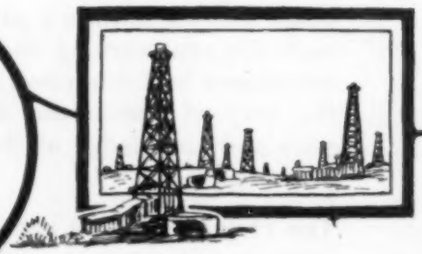

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only the difference in pressure between 14 and 6 ounces, or 8 ounces will be on the burner side of the regulator. This vacuum is varied by the boiler governor to adjust the rate of firing to the steam pressure.

The boiler governor or steam regulator uses the power of a small steam jet to control the large gas valve and only a small change in steam pressure is necessary to change the rate of firing from full load to no load.

The steam pressure is under the double bronze diaphragm of the boiler governor tending to push it upward. This force is resisted by a spring acting on a lever. The lever carries a small bronze ball valve moving between two seats, one above and the other below the ball. A small steam jet pulls a partial vacuum in the passage under the ball valve, all the time during which there is steam on the boiler. When the boiler pressure under the diaphragm is high enough to overcome the pull of the spring, acting through the lever the ball valve will raise from its lower seat and close the upper seat. This allows the partial vacuum pulled by the jet to be placed on top of the diaphragm in the gas regulator through the ⅜-inch line. This will assist the weighed diaphragm in moving upward, closing the balanced valve, reducing the pressure in the header line and the flow of gas to the burner. As the steam pressure in the boiler falls due to the decreased rate of firing, the spring in the boiler governor overcomes the force of the steam pressure under the diaphragm and allows the ball valve to move to the lower seat, shutting off the vacuum pulled by the jet and opening the vacuum line and the upper side of the side of the diaphragm to the atmosphere, through the passage around the loosely fitting ball valve stem. This action allows the weighed diaphragm to drop, opening the gas valve, increasing the pressure in the header line and increasing the flow of gas to the burner. The action of the boiler governor as described above applies to the maximum and minimum rates of firing. In actual operation the governor is so sensitive that the ball valve is seldom at either end of its travel but rather floating between them and placing a varying vacuum on the regulator diaphragm, adjusting the flow of gas to the steam demands on the boiler. When atmospheric pressure is above the diaphragm of the regulator, the outlet gas pressure is controlled only by means of the pressure under the diaphragm. Under this condition the burner is firing at its maximum rate with 14 ounces on the header. The boiler governor holds the steam within a very small range in pressure, providing the steam demand does not exceed the capacity of the boiler, and the steam pressure is regulated by the tension of the spring in the boiler governor. As has been explained the damper motor operates the automatic

air damper, obtaining its force from the gas pressure in the low presure side of the regulator. It is so designed that the flow of air through the damper will be in correct proportion to the flow of the gas through the nozzles at all rates of firing. The damper motor consists of two chambers, separated by a leather diaphragm one connected to the low pressure side of the regulator and the other open to the atmosphere. The small weight safety valve insures the diaphragms in the regulator and the damper motor against excess pressure. The force of the gas pressure on the diaphragm is transmitted through the push rod to the quadrant on the damper. This force rotates the damper on knife edged bearings, against the reaction of the weighed pendulum. With 14 ounces gas pressure the damper is practically wide open. At 7 ounces the damper is half open and so in proportion for all intermediate pressures.

The advantages of this burner may be summed up as follows: Automatic control of the air and gas supply,

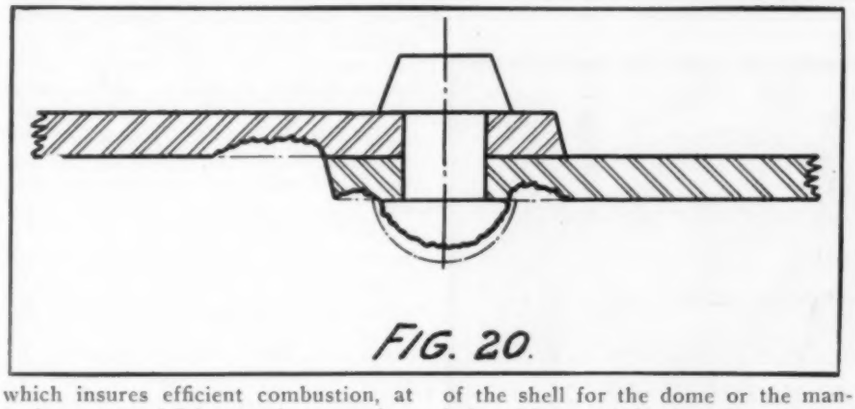

FIG. 20.

which insures efficient combustion, at various rates of firing, at the same time holding the steam pressure within close and predetermined limits.

A test using this type burner and the ordinary burner alternatively on the same well gave the following comparisons. The efficiency of the ordinary burner varied from six per cent to a maximum of 74 per cent and of the burner described in the preceding paragraphs the efficiency was from 76 to 82 per cent.

Explosions—Cause and Prevention

Of all equipment used in the oil fields, the boiler is subject to more abuse than any other piece of machinery. It is subjected to rough handling in being hauled from one location to another and while in use severe strains are placed upon the boiler by cold feed water, excessive air or snow and rain striking the unprotected surface of the boiler.

The causes ultimately leading to an explosion may sometimes go unnoticed when going on inside of the boiler. Large areas of plates are sometimes attacked by corrosion, giving the places a pitted or honeycombed appearance. Lap joints seem especially susceptible to corrosion, the plate eating away in a manner as shown in Fig. 20. It is thought that the bending action of the plates when under pressure is liable to start a small crack along the joint which, when acted upon by corrosive agents in the water will soon deepen into grooves, weakening the structure of the boiler and finally resulting into explosion.

Marks left by sharp caulking tools have the same injurious effect. Another internal condition, when not discovered in time, may be the cause of trouble that is due to incrustation. As explained in a previous paragraph, some boiler waters may contain substances which under boiler working conditions form a solid substance upon the heating surface. When this condition is allowed to go unhindered, due to the non-conductivity of scale, the heating surface will become overheated and burned, whereupon due to the pressure of the steam, it will give away resulting into damage to the boiler or an explosion.

Boilers may explode on account of defective design by such things as insufficient stayed surfaces, cutting away of the shell for the dome or the manhole without reinforcing the openings thus formed, but reputable boiler manufacturers adhere closely to the rules laid down by the A. S. M. E. boiler code, the value of which becomes more and more apparent and also make their boilers accoring to the requirements of the insurance companies.

The cause of an explosion can usually be laid at the door of mismanagement:

1. By allowing the water level to drop below the heating surface, which is followed by overheating, collapse and explosion. Red hot heating surfaces when suddenly being covered by cold feed water may suddenly contract, causing rupture and explosion.

2. A sticking or overloaded safety valve may cause the pressure to run up to a point far above that for what the boiler was designed. A weak boiler in this case may explode by suddenly closing the throttle valve on the boiler or the engine. When a boiler is filled with steam and water, and a fracture developes, a violent explosion usually follows. The steam escaping from the boiler diminishes the pressure in the boiler, allowing the formation of still more steam. When due to a serious rupture in the boiler, the pressure on

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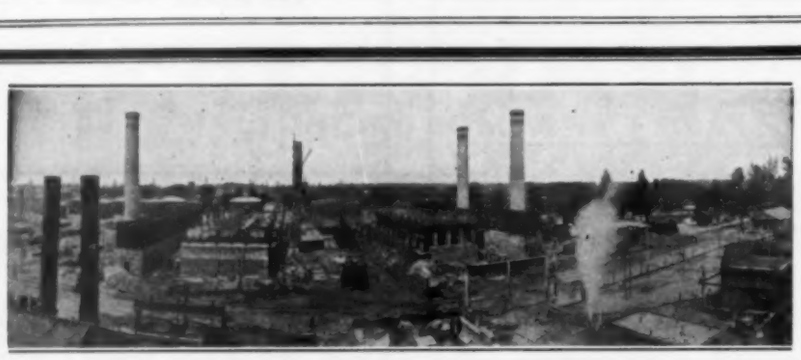

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the water is suddenly released, then this water will commence to evaporate with explosion like rapidity, the steam demolishing everything in its way, often resulting into loss of life and property. It is evident that the larger the quantity of water in a boiler, the more disastrous is the result in case of an explosion. On the other hand a boiler with a small quantity of water will blow up sooner in the case of a loaded or sticking safety valve.

From the above it is clear that boilers must be made accessable in order to allow inspection, so that defects may be detected and repaired. More care in the management of a boiler will not only result into a saving in the water and fuel bill of the owner, but at the same time will prevent the lamentable results of an explosion.

Magnolia Runs Show Increase for March

Dallas, Texas.—Magnolia Pipe Line Company's daily average crude runs from Oklahoma, Kansas, Texas, Louisiana and Arkansas during March amounted to 66,998 barrels, or 247 barrels greater than the average maintained during February. These runs represent crude produced and that purchased from outside companies by Magnolia Petroleum Company in the five states, and the daily average during March was the highest level reached by Magnolia since last October when runs averaged 69,096 barrels daily.

Current crude requirements of Magnolia's refineries at Beaumont, Corsicana and Fort Worth exceeds the available supply of high gravity oil, and during March stocks in Oklahoma-Kansas district were "pulled on" to the extent of 313,408 barrels and in the Wichita Falls - Breckenridge - Ranger district 73,871 barrels, making a total withdrawal of 387,279 barrels, or at the rate of 12,815 barrels daily for the two districts. In contrast to this withdrawal of light oil, Magnolia stored 219,214 barrels of heavy oil in field tanks in Arkansas, Louisiana and the Mirando district, Southwest Texas, where pipe line outlets are not available. However, Magnolia is rushing the construction work on an 8-inch welded line from Beaumont refinery to the Louisiana-Arkansas fields. Magnolia started operating its 20½ miles of six inch line from producing properties in Carson-Hutchinson County section of the Texas Panhandle to tank farm at Kings Mill March 17, but very little oil was moved during March owing to cold weather making it difficult to pump the oil, which congeals at about 50 degrees temperature.

A substantial gain in water shipments of fuel oil and refined products (gasoline, lubes, kerosene and distillates) from the Beaumont refinery via tankers to Atlantic Coast points and foreign countries during March. Fuel oil shipments during March totaled 11,-

785,665 gallons, as compared to 2,763,823 gallons during the previous month, while refined oil shipments jumped from 35,156,171 gallons during February to 62,242,727 gallons in March.

Magnoia Pipe Line Company's crude runs during February and March follows:

Fields—	Feb. Totals	March Totals
Wewoka-Cromwell	304,718	361,928
Cushing-Davenport	262,394	253,624
Healdton	186,418	212,658
Hewitt-Graham	74,351	88,939
Yale	55,826	62,055
Duncan	43,146	48,118
Burbank	43,590	45,811
Augusta	35,071	38,867
Cement	18,922	22,703
Walters-Beaver Creek	7,505	7,959
Totals Okla. and Kan.	1,031,941	1,142,662
Luling	192,510	214,394
Lytton Springs	135,315	132,663
Electra	99,189	107,044
Burkburnett	75,310	84,460
Mirando	36,249	76,365
Archer County	62,335	65,123
Ranger-Olden	28,514	26,625
Desdemona-Comanche	22,941	24,077
Corsicana-Powell	22,358	20,928
Stephens County	14,624	14,200
Corsicana (Heavy)	8,138	9,054
Petrolia-Clay County	6,403	6,683
Iatan-Mitchell County	4,106	5,360
Thrall-Williamson County	1,488	1,679
Panola County	.....	1,330
Mexia-Wortham	1,430	909
Coleman County	304	533
Totals for Texas	711,214	791,427
Totals for Arkansas	78,657	97,425
Totals for Louisiana	47,217	45,424
Totals for five states	1,869,029	2,076,938

Sanderson-Cyclone Company Buys W-S-M Engine Company

Orville, Ohio.—On January 1, this year, the Motor Division of the Wellman - Seaver - Morgan Company, of Cleveland, Ohio, operated at Akron, Ohio, was purchased in its entirety by The Sanderson-Cyclone Drill Company, of Orrville.

In the agreement covering this purchase, all drawings and patterns, special machinery, tools and jigs, inventory and good-will of W-S-M engines were transferred to The Sanderson-Cyclone Drill Company, and the physical property was moved to Orrville, Ohio, where the engines are now being built and serviced.

This change in ownership of W-S-M engines involves no radical change in engineering or manufacturing details of the engine inasmuch as practically all former heads of the engineering and manufacturing departments of the Motor Division of the Wellman-Seaver-Morgan Company are now associated with the purchasing company in the same capacity as they had with the Wellman-Seaver organization.

The Sanderson-Cyclone Drill Company has a new and modern plant located on a thirty-five acre tract at the edge of Orrville, and is equipped to give immediate attention to any demand for its products. Oil well machinery is among the specialties made by the company.

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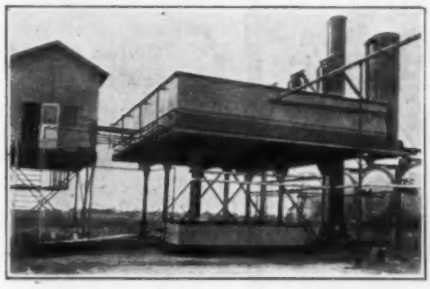

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Bureau of Mines Announces Report on Oklahoma Fields

An engineering and geological report on the Papoose Oil Field of Okfusee and Hughes Counties, Oklahoma, has been prepared by John R. Bunn, of the United States Bureau of Mines, Bartlesville, Okla., including a chapter on the geology of the area by Louis Roark of the Kingwood Oil Company, and is published as Oklahoma Geological Survey Bulletin No. 36.

The first part of the Bulletin consists of a discussion of the geology of the area by Mr. Roark, presenting in detail the logs of two wells in the area, and showing geological correlations and discussions. In addition to the geological discussion, there is presented a description of the Gilcrease and Papoose oil zones in the field, and mention is also made of the upper horizons.

A full statement is also included, showing the use of cable and rotary tools and the advantages of either for use in this territory and others. Quite a complete discussion is made with regard to methods of coring sands and the importance of this work in oil field development work. In addition the methods of completing oil and gas wells are explained.

A part of the report is devoted to a dissertation on the value of properly casing of oil and gas wells, which discusses the value of correct measurements and pipe thread lubricants, and also mentions the use of seamless casing.

A chapter of the report is given over to different phases of production, including the relation to structure, conservation of gas, flowing under back pressure, stimulated methods for increasing oil production, and shooting. There is shown in very complete form, a statement of the water troubles existing in the Papoose field, with recommendations for excluding them, also a description of the different methods of cementing, including tables for use of the operator.

In addition to a complete report of the field, with respect to the different phases of its development, there are included various curves, tables and statistics, and a table showing the oil analysis of the oil produced. In the back of the report there are four figures, including a map of the Papoose fields, showing the subsurface structure by contours and three representative cross-sections. The report should be of special value to any operator in the region of the field, and of course, particularly so to those operating in the field.

This bulletin may be obtained by addressing the Oklahoma Geological Survey, Norman, Okla. To compenate for the cost of printing, a charge of 57 cents is made for the report.

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SQUEAKS FROM THE BULL WHEEL

Recipe for an Omelet

"One morning last week my wife asked me to copy the radio menu from a Detroit broadcasting station," writes McKinley H. Sauer of Middletown, Ohio. "I did my best. It seems another station was cutting in with the morning exercises. Anyway, here is my menu:

"Hands on hips. Place one cup of flour on shoulders. Raise knee, depress toes and wash thoroughly in one cup of milk. In four counts raise and lower left foot and mash two hard-boiled eggs through a sieve; repeat six to ten times. Inhale one-half teaspoonful of salt, one level teaspoonful of baking powder and one cup of flour; then, breathing naturally, exhale and sift.

"Attention! Jump to a squatting position, bend white of egg backward and forward in cadence of quick time. Twist sideward, right or left, as far as possible; bring fists together forcibly and beat egg slowly and briskly. Arms forward overhead. Raise cooked eggs from the flour and in four counts make a stiff drop dough which is stretched at the waist, thigh flexed. Lay flat on the floor and roll marbles the size of a walnut. Hop to straddle into boiling salt water, but do not boil at a gallop. After ten minutes remove and wipe with rough towels. Breathe naturally, dress in warm flannels and serve with fish soup."

—Taken from Colliers'

Another Test

Tom: "What are you putting your thumb in the corn likker for?"

Jerry: "If the nail stays on I'm going to drink it."

No Rush

"Henry," said Mrs. Glipping, in tearful tones.

"Well, my dear?" replied Henry, looking up from his paper. "What is it?"

"If I were to die tonight, would you marry again?"

"Not tonight."

—Laughter.

"I suppose you traveled in Europe last summer to satisfy your thirst for knowledge."

"No, just my thirst."

"Off Again—On Again!"

Boss: "Well, did you read the letter I sent you?"

Office Boy: "Yes, sir; I read it inside and outside. On the inside it said, 'You are fired,' and on the outside it said, 'Return in five days,' so here I am."

"What became of that nice young fellow who used to call on you?" inquired her dad.

"Oh, I ditched him," countered Lizzie.

"Huh! You haven't got sense enough to hold on to a sensible young fellow when you get one."

"Say, listen, dad. Judging from the kind of language you use when you get one you don't think so doggone much of a flat tire yourself."

Mrs. Vera Black (inspecting sofas in the Darktown Furniture Emporium): "Haven't yo' got any mohair ones?"

A. Lilcoln Jones, Prop.: "I'se sorry, ma'am, but dis one heah is the hairiest what we got."

—Exch.

A Scottish minister was on his usual rounds when he encountered one of his old friends.

"And how is the old world treating you, Jock?" asked the minister.

"Very seldom," replied Jock sadly.

—Exch.

Why He Went Faster

"The officer is all wrong, your honor. I wasn't doing anything like 60 miles an hour."

"Were you watching the speedometer?"

"No, sir. I didn't need to. I wasn't in any hurry—I was just out for a spin. I wasn't going anywhere."

"Well, you're going somewhere now—ten days."

—Huntington Motorist.

A clergyman was conducting a funeral in a Western State when two shots were fired outside the church. The undertaker at once rushed out, but returned in a few moments smiling.

"I've secured both those customers," he whispered to the parson with pardonable pride.

Purely Accidental

A resident of Atlanta took out an accident insurance policy and then fell ill of pleurisy. He brought action against the insurance company and lost in the municipal court, which decided that pleurisy was not an accident, but a visitation of God. The superior court reversed the finding on the ground that a visitation of God to a resident of Atlanta was an accident.

Driver: Madam, I am very sorry I killed your dog. Will you allow me to replace him?

Madam: Oh, dear. This is so sudden.

—Pitt Panther.

But Not Misrepresenting

Rufus—"Hello, Rastus."

Rastus—"Hello, Rufus."

Rufus—"I heah yo'all been quarrel'n ovah you' house."

Rastus — "Yessuh, dat no 'count wife ob mine am all de time got de habit ob 'xaggeratin'."

Rufus—"How come, now?"

Rastus——"She done gone an' had twins."

The lawyer took his wife to court. After she had looked around a minute she gave a sudden shudder, "My," she whispered, "What an awful creature the prisoner is."

"Sh-h-h!" her husband hissed. "The prisoner hasn't come in yet. That's the judge."

—Calgary Eye Opener.

A preacher, addressing the Sunday school, was explaining the significance of white.

"Why," he asked, "does a bride desire to be clothed in white at her marriage?"

As no one answered he went on. "Because white stands for joy, and the wedding day is the most joyous event in a woman's life."

A little fellow interrupted: "Please, sir, why do the men all wear black?"

No Exception

The Irate Father: "I can see right through that chorus girl's intrigue, young man."

The Lovesick Son: "I know, dad, but they all dress that way nowadays."

—New York Sun

BUYERS' GUIDE

A classified directory of all products used in the production of oil together with names of recognized supply dealers and manufacturers from whom they may be purchased. The concerns appearing in the Guide are regular advertisers in The OIL WEEKLY and further information including addresses can be secured by referring to their advertisements. *Alphabetical Advertisers Index on page 20.*

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ROTARY FISH TAIL BITS
Continental Supply Company
Multi-Cutr Rotary Bit Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

ROTARY ROCK BITS
Hughes Tool Co.
Reed Roller Bit Co.

ROTARY TOOLS
Federal Supply Company

SAFETY CASING CLAMPS
Shaffer Specialty Company

SAND PUMPS
Larkin & Co.

SAND REEL SUPPORTS
Shaffer Specialty Co.

SCREEN CASING
Kobe. Inc.
Wilson & Willard Mfg. Co.

SEPARATORS
Butler Mfg. Co.
Lorraine Corp.
M & V Tank Co.
Smith Separator Co.
Trumble Gas Trap Co.

SNUFFERS, Fire
Simplex Equipment Co.

SPECIALTY MANUFACTURERS
Shaffer Specialty Co.

SPECIAL STEEL CASTINGS
Sivyer Steel Casting Co.

STEEL, Alloy
Andrews Steel Co.
Central Steel Co.
Ludlum Steel Co.

STEEL BULL WHEELS
Emsco Derrick & Equipment Co.
McIntosh & Seymour Corp.

STEEL CALF WHEELS
Emsco Derrick & Equipment Co.

STEEL DERRICKS
Emsco Derrick & Equipment Co.
Emsco Steel Products Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

STEEL CROWN BLOCKS
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

STEEL STORAGE TANKS
Butler Mfg. Co.
Petroleum Iron Works Co., The

STRAINERS
Emsco Steel Products Co.
Howard Smith Company
Kobe, Inc.
Layne & Bowler Co.,
J. H. McEvoy & Co.

SPECIAL STEELS
Andrews Steel Company
Central Steel Co.

STRUCTURAL STEEL
Butler Mfg. Co.
United Iron Works, Inc.

SUCKER ROD LINES
Continental Supply Company

SUCKER ROD ELEVATORS
The Cunningham Co.
Axelson Machine Co.

SUCKER ROD HANGERS
Lorraine Corp.

SUCKER ROD HOOKS
The Cunningham Co.
Regan Forge & Engineering Co.

SUCKER ROD ROTORS
Sargent Engineering Corp.

SUCKER ROD SOCKETS
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Brown Welding & Machine Co.
Continental Supply Company
The Cunningham Co.
Federal Supply Company
Shaffer Specialty Co.
Western Supply Co.

SUCKER RODS
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Continental Supply Company
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Co.
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Oil Well Supply Co.
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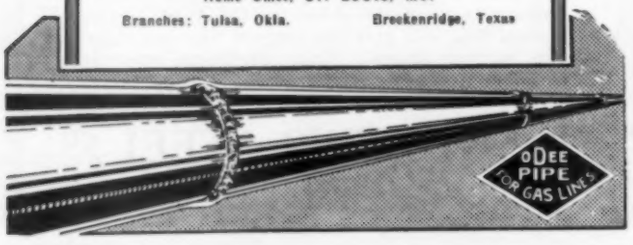

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Shaffer Specialty Co.
Simplex Equipment Company

SWING JOINTS
General Machine Works
Westcott & Greis

TANKS
Butler Mfg. Co.
The Brownell Co.
Maloney Tank Co.
M & V Tank Co.
Petroleum Iron Works Co., The
United Iron Works
Wyatt Metal & Boiler Works

TANK DEADWOOD
Robertson-McDonald Lbr. Co.

TANK EQUIPMENT
Westcott & Greis

TEMPER SCREWS
Burns Tool Co.

THERMOMETERS
Fort Worth Laboratories

TIMBERS
Robertson-McDonald Lbr. Co.

TONGS
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Continental Supply Company
Dunn Mfg. Co.
Guiberson Corporation
Howard Smith Company
LeBus Rotary Tool Works
J. H. Williams & Co.
Wilson & Willard Mfg. Co.

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Bridgeport Machine Co.
Continental Supply Company
Emsco Steel Products Co.
Hughes Tool Co.
Peden Iron & Steel Company
Regan Forge & Engineering Co.
Republic Supply Co.

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Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Company
Frick-Reid Supply Co.
Houston Engineers, Inc.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
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Republic Supply Co.
Spang & Co.
Star Drilling Machine Co.
Sullivan Machinery Co.

TOOTHLESS SLIPS
LeBus Rotary Tool Works

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C. F. Camp Co.
Rock Island Plow Co.

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Lufkin Foundry & Machine Co.
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Wichita Falls Motor Co.

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Dunn Mfg. Co.
Guiberson Corporation

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Continental Supply Company

TUBING PROTECTORS
Mexia Planing Mill Co.

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National Tube Co.
Republic Supply Co.
Reading Iron Co.
South Chester Tube Company

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Wilson & Willard Mfg. Co.

UNDERREAMER BIT STEEL
Andrews Steel Co.

UNDERREAMER CUTTER STEEL
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Sullivan Machinery Co.

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Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Ludlow Valve Mfg. Co.
The Lunkenheimer Company
Metric Metal Works
Norris Bros.
Northrup Equipment Company
Smith Separator Co.
Southern Brass Mfg. & Plating Company
Peden Iron & Steel Company
Westcott Valve Mfg. Co.

VALVES, Gate
The Lunkenheimer Company

VALVES AND FITTINGS
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Darling Valve & Mfg. Co.
D & B Pump & Supply Co.
Hercules Supply Co.
Jarecki Mfg. Co.
Kerotest Mfg. Company
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The Lunkenheimer Company
The National Supply Cos.
Peden Iron & Steel Company
Republic Supply Co.
United Iron Works

VENTS
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Oil Conservation Engineering Co.

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International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

WELL SHOOTERS
Eastern Torpedo of Ohio Co.

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Continental Supply Co.
D & B Pump & Supply Co.
Howard Smith Company
Northrup Equipment Company
Peden Iron & Steel Company
Republic Supply Co.
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Company

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Smith Separator Co.

WATER CANS
H. P. Gott Mfg. Co.

WATER SOFTENING COMPOUNDS
Ward Chemical Co.

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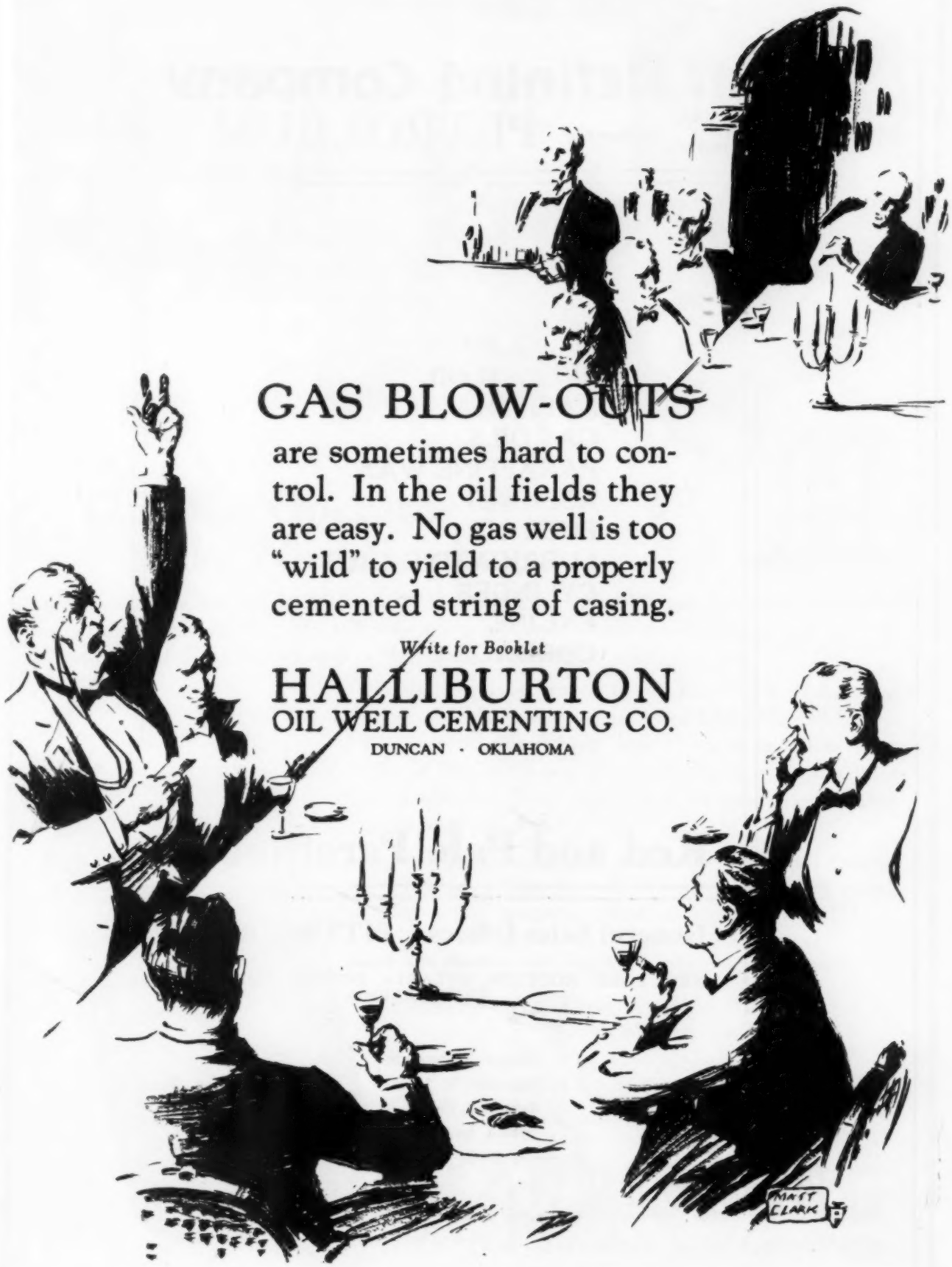
American Cable Co.
Bridgeport Machine Co.
Continental Supply Company
Hercules Supply Co.
International Supply Co.
The Longhart Supply Company
Peden Iron & Steel Company
Regan Forge & Engineering Co.
Republic Supply Co.
The National Supply Cos.
Wickwire Spencer Steel Corp.
Williamsport Wire Rope Co.

WIRE ROPE FITTINGS
American Cable Co.

WIRE ROPE SLINGS
American Cable Co.



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